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ZOOPLANKTON VOLUMES OFF THE PACIFIC COAST, 1949-50

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UNITED STATES DEPARTMENT OF THE INTERIOR
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Explanatory Note

The series embodies results of investigations, usually of restricted scope, intended to aid or direct management or utilization practices and as guides for administrative or legislative action. It is issued in limited quantities for the official use of Federal, State or cooperating Agencies and in processed form for economy and to avoid delay in publication.

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United States Department of the Interior, Douglas McKay, Secretary
Fish and Wildlife Service, John L. Farley, Director

ZOOPLANKTON VOLUMES OFF THE PACIFIC COAST, 1949-50

Staff of the
South Pacific Fishery Investigations

Special Scientific Report: Fisheries No. 125

Washington, D.C.
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ZOOPLANKTON VOLUMES OFF THE PACIFIC COAST, 1949-50

This is the third report on zooplankton volumes off the Pacific coast. The first, titled "Zooplankton Volumes Off the Pacific Coast, 1951", appeared in this series as Special Scientific Report: Fisheries No. 73; the second, covering zooplankton volumes for 1952, was issued as Special Scientific Report: Fisheries No. 100. The data for zooplankton volumes for 1949 and 1950 are presented in the same form as that followed in the 1952 report.

The zooplankton collections were taken on the survey cruises of the California Cooperative Oceanic Fisheries Investigations. The survey cruises were made at monthly intervals between March and November 1949 (cruises 1-9), and between February and September 1950 (cruises 11-18). Cruises numbered 10 (January 1950), 19 (October 1950), and 20 (November 1950) were special-purpose cruises, and the plankton samples obtained on those cruises are not included in this report.

Vessels of three agencies participated in the cruises. These included the Crest (all cruises), Horizon (cruises 1-14), and Paolina T. (cruises 12, 15-18) of the Scripps Institution of Oceanography, the N. B. Scofield (cruises 1-3) of the California Department of Fish and Game, and the Black Douglas (cruises 5-18) of the U. S. Fish and Wildlife Service.

The nets employed in collecting the plankton samples were constructed of No. 30xxx grit gauze, and were 1 meter in diameter at the mouth, by about 5 meters in length. They are identical with those being used in the Pacific Oceanic Fisheries Investigations (King and Demond, 1953).

A similar procedure for taking plankton hauls was followed during both 1949 and 1950. The hauls were made obliquely from approximately 70 meters deep to the surface (100 meters of wire out at greatest depth). At all stations a current meter was used in the mouth of the net to register the flow of water into the net. At a moderate number of stations, deeper tows were made; these are given as a group following cruise 18. The method of standardizing hauls is discussed in Special Scientific Report: Fisheries No. 100.

The plankton measurements are of "wet" volume. The plankton was separated from its preserving liquid and allowed to drain for a few minutes before a determination was made of its displacement volume. For comparability, all hauls are given in the same unit - the volume present in 1,000 cubic meters of water strained. Two measurements are given for each sample: (1) the total displacement volume, which includes all organisms taken in the haul, and (2) the volume of the "smaller" organisms only, from which jelly masses, large salps, larger crustacea (such as Pleuroncodes), larger mollusca, and juvenile and adult fish were removed.

In addition to plankton volumes, the following information is included for each haul: location, date and time of collection, volume of water strained in obtaining the haul, and the depth sampled. Many of the large volumes reported for hauls taken in 1950 were made up predominantly of small salps. A breakdown of plankton volumes by principal constituents is now being made at Scripps Institution of Oceanography for many of the samples included in this report.

A different system of numbering stations was used in 1949, than has been used subsequently. The 1949 scheme was abandoned as being too inflexible. The change involved more than the numbering of stations, as the position and direction of station lines were more or less altered, also. Since January 1950, a grid system has been in use which permits almost unlimited flexibility in adding stations. The equivalents for 1949 station numbers in the numbering scheme now in use are given in the accompanying table.

1949 station numbers revised to conform to the numbering scheme used in 1950 and subsequently

Sta.No. used in 1949	Equivalent in present numbering system	Sta.No. used in 1949	Equivalent in present numbering system	Sta.No. used in 1949	Equivalent in present numbering system
101	20.10	201	28.24	301	35.37
102	18.18	202	27.33	302	34.46
103	16.27	203	25.42	303	33.55
104	14.36	204	24.51	304	31.65
105	13.44	205	22.60	305	30.74
106	11.53	206	21.69	306	29.83
107	09.62	207	19.78	307	28.92
108	08.70	208	18.87	308	26.102
109	06.79	209	16.96	309	25.111
110	04.88	210	15.105	310	24.120
401	44.49	501	54.56	601	63.58
402	43.58	502	53.66	602	62.68
403	42.68	503	52.75	603	61.78
404	41.77	504	51.85	604	61.87
405	40.87	505	50.95	605	60.97
406	39.96	506	50.104	606	59.107
407	38.106	507	49.114	607	59.117
408	37.115	508	48.124	608	58.127
409	36.125	509	47.133	609	57.136
410	35.134	510	46.143	610	57.146
461	49.53			661	67.53
701	72.56	801	82.57	901	92.39
702	71.66	802	82.67	902	92.48
703	71.76	803	82.77	903	92.58
704	71.85	804	82.87	904	92.68
705	70.95	805	81.97	905	92.78
706	70.105	806	81.107	906	92.88
707	70.115	807	81.117	907	92.98
708	69.125	808	81.127	908	92.108
709	69.135	809	80.137	909	92.117
710	69.144	810	80.147	910	92.127
		871	89.45	911	92.137
1001	101.34	1101	111.38	1201	122.44
1002	101.44	1102	111.48	1202	122.53
1003	102.54	1103	111.58	1203	123.63
1004	102.64	1104	111.68	1204	123.73
1005	102.74	1105	112.78	1205	124.83
1006	102.84	1106	112.88	1206	124.93
1007	102.94	1107	112.98	1207	125.102
1008	102.103	1108	112.107	1208	125.112
1009	103.111	1109	112.117	1209	126.122
1010	103.119	1110	113.127	1210	126.132
1011	103.128	1111	113.137		
1061	106.39				

Plankton Volumes, Cruise 1, March 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
501	38°50'	124°05'	III-1	0232	0256	821	0-60	112	112
502			Not occupied						
503	38°35'	125°48'	III-1	1356	1419	690	0-61	171	171
504	38°28.5'	126°40'	III-1	2045	2110	529	0-65	127	127
505	38°20'	127°31'	III-2	0323	0345	507	0-64	172	172
506	38°14'	128°22'	III-2	1032	1054	382	0-62	110	110
507	37°50'	129°03'	III-2	1729	1752	613	0-74	47	47
508			Not occupied						
509			Not occupied						
510			Not occupied						
601	37°15'	123°14'	III-6	0303	0325	540	0-56	284	284
602	37°04.5'	123°58'	III-5	2155	2216	(815)	0-56	511	511
603	36°51'	124°48'	III-5	1618	1642	394	0-61	173	173
604	36°41.5'	125°32'	III-5	1041	1104	728	0-69	55	55
605	36°28.5'	126°19'	III-5	0444	0508	670	0-74	55	55
606	36°17'	127°06'	III-4	2253	2316	696	0-69	93	93
607	36°04'	127°55'	III-4	1658	1722	555	0-65	99	99
608	35°50'	128°42'	III-4	1047	1111	680	0-76	69	69
609	35°36'	129°27'	III-4	0443	0506	680	0-75	110	110
610	35°22'	130°13'	III-3	2154	2219	663	0-75	166	166
701	35°49'	121°50'	III-6	1423	1447	560	0-63	139	139
702	35°23.5'	122°33.5'	III-6	2157	2208	476	0-59	374	374
703	35°04'	123°20'	III-7	2008	2031	829	0-60	133	133
704			Not occupied						
705			Not occupied						
706			Not occupied						
707			Not occupied						
708			Not occupied						
709			Not occupied						
710			Not occupied						
801	33°50'	120°40'	III-15	1945	2008	615	0-68	190	190
802	33°33'	121°21'	III-15	1442	1505	594	0-71	84	84
803	33°15'	122°05'	III-15	0901	0925	630	0-68	114	114
804	32°57'	122°48'	III-15	0240	0304	558	0-70	116	116
805	32°40'	123°30'	III-14	2003	2027	776	0-54	129	129
806	32°22'	124°13'	III-14	1312	1336	689	0-63	113	113
807	32°05'	124°55'	III-14	0730	0753	509	0-63	69	69
808	31°47'	125°38'	III-14	0010	0035	842	0-76	59	59
809			Not occupied						
810			Not occupied						

Plankton Volumes, Cruise 1, March 1949 (cont'd)

Position			Time (PST)					Vol.per 1000 C.M.strained	
Sta.	N.lat.	W.long.	(1949) Date	Start	End	Vol. water strained C.M.	Depth of haul in meters	Total cc.	Sm.org. cc.
901	32°40'	118°10'	II-28	1730	1751	1179	0-34	40	21
902	32°21'	118°53'	III-1	0009	0032	608	0-71	112	112
903	32°03'	119°31'	III-1	0645	0707	976	0-44	50	50
904	31°42.5'	120°16'	III-1	1320	1343	896	0-51	61	50
905	31°26'	120°53'	III-1	1928	1950	1490		117	117
906	31°07'	121°34'	III-2	0220	0244	852	0-56	124	124
907	30°50.5'	122°11'	III-2	0928	0951	728	0-62	41	30
908	30°30'	122°51'	III-2	1428	1452	915	0-52	56	35
909	30°11'	123°37'	III-2	2305	2328	902	0-50	64	64
910	29°45'	124°16.5'	III-3	0547	0611	1014	0-46	74	54
911	29°32.5'	124°57'	III-3	1202	1224	881	0-50	34	28
1001	31°22'	116°55.5'	III-6	2000	2024	671	0-68	225	225
1002	31°00.5'	117°30'	III-6	1406	1428	664	0-63	26	26
1003	30°40.5'	118°10.5'	III-6	0730	0754	626	0-72	78	70
1004	30°15'	118°50'	III-6	0102	0124	1084	0-39	85	85
1005	29°52'	119°30'	III-5	1836	1859	1139	0-39	75	75
1006	29°29'	120°13'	III-5	1140	1211	1015	0-42	22	22
1007	29°07'	120°48'	III-5	0542	0604	1114	0-38	58	58
1008	28°51'	121°19'	III-4	2349	0011	1156	0-37	82	82
1009	28°32'	121°50.5'	III-4	1812	1838	1086	0-47	51	32
1010	28°17'	122°23'	III-4	1219	1241	989	0-44	17	17
1011	27°48'	122°52'	III-4	0635	0656	877	0-47	50	41
1101	29°23'	116°00'	III-7	1019	1041	891	0-49	26	26
1102	29°12'	116°46'	III-7	1643	1705	1038	0-41	87	87
1103	28°47'	117°21'	III-7	2213	2335	972	0-44	77	62
1104	28°20.5'	118°03'	III-8	0548	0611	800	0-56	112	112
1105	28°03.5'	118°41.5'	III-8	1135	1156	701	0-59	16	16
1106	27°43'	119°16.5'	III-8	1827	1850	1017	0-43	16	16
1107	27°20'	119°52'	III-8	2329	2350	1042	0-39	58	46
1108	26°57'	120°34.5'	III-9	0535	0558	1076	0-42	70	70
1109	26°37'	121°03'	III-9	1110	1130	1164	0-32	17	17
1110	26°15'	121°45'	III-9	1727	1750	1222	0-36	7	7
1111	26°00'	122°10'	III-9	2201	2223	932	0-46	24	24
1201			Not occupied						
1202	27°05'	115°54.5'	III-12	1921	1944	904	0-50	46	46
1203	26°37'	116°37'	III-12	1104	1125	915	0-45	12	12
1204	26°16'	117°03'	III-12	0425	0448	1006	0-45	68	68
1205	25°51'	117°37'	III-11	2211	2232	798	0-52	23	23
1206	25°26'	118°10'	III-11	1600	1624	1107	0-42	4	4
1207	25°08.5'	118°51'	III-11	1002	1023	1146	0-35	7	7
1208	24°37'	119°21'	III-11	0358	0420	1077	0-40	28	28
1209	24°05'	119°53'	III-10	2129	2151	1234	0-34	12	12
1210	23°55'	120°20'	III-10	1645	1707	1210	0-35	11	11

Plankton Volumes, Cruise 2, April 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
301	42°39.5'	125°04'	IV-5	2118	2142	757	0-65	232	232
302	42°34'	125°53'	IV-5	1411	1434	766	0-69	372	372
303	42°30'	126°36'	IV-5	0928	0950	590	0-66	364	364
304	42°28'	127°37'	IV-5	0322	0345	439	0-63	342	342
305	42°25'	128°34'	IV-4	2112	2135	353	0-67	807	807
306	42°16'	129°28'	IV-4	1450	1512	463	0-75	443	443
307	42°09.5'	130°15'	IV-4	1014	1037	619	0-67	288	288
308	42°04'	131°14'	IV-4	0349	0411	688	0-59	334	334
309	41°58.5'	132°07'	IV-3	2201	2225	826	0-67	166	149
310	41°52'	133°05'	IV-3	1520	1542	810	0-58	159	122
401	40°50'	124°50'	III-27	2322	2347	814	0-67	233	172
402			Not occupied						
403	40°33'	126°24'	IV-1	0856	0920	866	0-63	294	294
404	40°12'	127°38'	IV-1	1925	1950	682	0-73	594	594
405			Not occupied						
406	39°58'	129°11'	IV-2	0704	0728	736	0-71	322	322
407			Not occupied						
408	39°47'	130°42'	IV-2	1715	1738	791	0-61	129	97
409	39°45'	131°36'	IV-3	0004	0028	759	0-63	191	158
410			Not occupied						
501	38°50'	124°05'	IV-7	0754	0818	747	0-66	39	39
502	38°37'	124°57.8'	IV-7	1304	1327	600	0-73	492	316
503	38°28'	125°48'	IV-7	1843	1906	708	0-67	409	233
504	38°15'	126°47'	IV-8	0035	0057	777	0-62	238	129
505	38°03'	127°32'	IV-8	0625	0648	676	0-73	370	358
506	37°52'	128°12'	IV-8	1033	1056	860	0-56	59	52
507	37°46'	128°51'	IV-8	1553	1617	702	0-63	141	141
508	37°32'	129°48'	IV-8	2244	2306	783	0-54	530	530
509	37°20'	130°40'	IV-9	0439	0502	612	0-70	319	311
510	37°10'	131°20'	IV-9	0941	1004	778	0-58	122	122
601	37°16'	123°10'	IV-7	1317	1340	598	0-69	210	172
602	37°03'	123°57'	IV-7	0812	0836	(773)	0-71	220	149
603	36°50'	124°43'	IV-7	0228	0252	(785)	0-70	223	159
604			Occupied. Sample not quantitative						
605	36°24'	126°17'	IV-6	1525	1548	709	0-65	113	113
606	36°11'	127°04'	IV-6	0906	0929	761	0-66	138	138
607	35°58'	127°51'	IV-6	0325	0348	932	0-64	188	166
608	35°44'	128°37'	IV-5	2143	2205	842	0-67	184	184
609	35°31'	129°24'	IV-5	1721	1745	867	0-68	75	75
610	35°18'	130°11'	IV-5	1215	1240	930	0-66	28	28

Plankton Volumes, Cruise 2, April 1949 (cont'd)

Position			Time (PST)				Vol. per 1000 C.M. strained	
Sta.	N.lat.	W.long.	(1949) Date	Start	End	Vol. water strained C.M.	Depth of haul in meters	Total cc.	Sm.org. cc.
701	35°41'	121°50'	IV-8	0212	0238	876	0-67	297	297
702	35°25'	122°35'	IV-8	0644	0707	660	0-69	326	152
703	35°10'	123°19'	IV-8	1233	1256	750	0-68	193	146
704	34°54'	124°04'	IV-8	1815	1838	726	0-72	162	138
705	34°39'	124°48'	IV-9	0012	0036	743	0-74	135	128
706	34°23'	125°33'	IV-9	0605	0630	716	0-73	189	175
707	34°02'	126°34'	IV-9	1126	1148	730	0-71	36	36
708	33°45'	127°19'	IV-9	1647	1710	766	0-64	26	26
709			Not occupied						
710	33°19'	128°32'	IV-4	2032	2055	807	0-74	38	38
801	33°50'	120°40'	IV-1	2339	0001	767	0-74	183	163
802			Not occupied						
803	33°15'	122°05'	IV-2	1036	1102	899	0-72	67	61
804			Not occupied						
805			Not occupied						
806			Not occupied						
807	32°05'	124°55'	IV-3	0827	0850	903	0-67	11	11
808	31°47'	125°38'	IV-3	1502	1527	793	0-75	50	28
809	31°29'	126°20'	IV-3	2045	2108	801	0-74	81	75
810	31°11'	127°03'	IV-4	0346	0411	874	0-71	55	47
901	32°40'	118°10'	III-29	1238	1300	933	0-45	19	14
902	32°25'	118°51'	III-29	0354	0417	835	0-49	102	102
903	32°04'	119°29'	III-30	0215	0238	1076	0-38	38	33
904	31°44'	120°13'	III-30	0830	0853	887	0-52	39	39
905	31°26'	120°53'	III-30	2325	2347	756	0-53	67	67
906	31°10'	121°41'	IV-12	1228	1248	895	0-40	39	39
907	30°53'	122°16'	IV-12	0623	0646	974	0-40	51	41
908	30°28'	122°57'	IV-12	0009	0031	894	0-43	166	2
909	30°08'	123°37'	IV-11	1748	1809	1085	0-33	9	9
910	29°48'	124°14'	IV-11	1132	1154	798	0-49	15	15
911	29°32'	124°53'	IV-11	0428	0451	(849)	0-48	147	88
1001	31°20'	116°55'	IV-8	0010	0032	548	0-70	84	84
1002	30°54'	117°35'	IV-8	0712	0734	823	0-49	52	52
1003	30°35'	118°17'	IV-8	1436	1458	721	0-56	35	35
1004	30°18'	118°51'	IV-8	2019	2040	1022	0-37	51	51
1005	29°50'	119°33'	IV-9	0251	0313	722	0-54	111	111
1006	29°24'	120°17'	IV-9	0954	1016	931	0-42	22	22
1007	29°06'	120°50'	IV-9	1449	1511	802	0-49	25	25
1008	28°49'	121°22'	IV-9	2016	2040	1039	0-41	96	62
1009	28°31'	121°51'	IV-10	0153	0215	838	0-46	113	90
1010	28°11'	122°25'	IV-10	0719	0743	769	0-55	82	82
1011	27°52'	123°00'	IV-10	1251	1313	(840)	0-46	12	12

Plankton Volumes, Cruise 2, April 1949 (cont'd)

Position			(1949)	Time (PST)		Vol. water	Depth of	Vol. per 1000 C.M. strained	
								Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M. strained	haul in meters	cc.	cc.
1101	29°30'	116°07'	IV-7	0926	0948	716	0-57	91	91
1102	29°09'	116°48'	IV-7	0304	0326	603	0-59	121	81
1103	28°48'	117°20'	IV-6	2056	2118	705	0-58	113	85
1104	28°26'	117°58'	IV-6	1452	1514	898	0-43	12	12
1105	28°08'	118°43'	IV-6	0827	0849	879	0-53	7	7
1106	27°43'	119°14'	IV-6	0214	0236	766	0-48	94	81
1107	27°21'	119°52'	IV-5	2021	2043	1061	0-38	77	77
1108	26°59'	120°29'	IV-5	1423	1445	1027	0-40	24	24
1109	26°37'	121°07'	IV-5	0848	0910	982	0-42	66	51
1110	26°15'	121°45'	IV-5	0250	0312	(1223)	0-32	52	52
1111	25°52'	122°25'	IV-4	2044	2107	1117	0-38	18	18
1201	27°30'	115°18'	IV-1	1828	1851	705	0-58	163	163
1202	27°05'	115°55'	IV-2	0003	0026	788	0-51	91	70
1203			Occupied. Sample not quantitative						
1204	26°16'	117°03'	IV-2	1356	1419	929	0-46	16	16
1205	25°49'	117°38'	IV-2	1947	2010	720	0-56	43	43
1206	25°27'	118°12'	IV-3	0155	0218	824	0-53	109	109
1207	25°01'	118°53'	IV-3	0859	0921	858	0-46	6	6
1208	24°37'	119°21'	IV-3	1414	1437	728	0-60	14	14
1209	24°12'	119°55'	IV-3	2054	2116	1044	0-40	14	14
1210	23°46'	120°29'	IV-4	0247	0309	949	0-42	12	12

Plankton Volumes, Cruise 3, May 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101	46°15'	124°50'	IV-29	2012	2036	716	0-72	230	230
102	46°15'	125°47	IV-30	0157	0221	(605)	0-77	289	281
103	46°15'	126°44'	IV-30	0757	0820	681	0-77	198	198
104			Not occupied						
105			Not occupied						
106	46°15'	129°35'	IV-30	2353	0016	944	0-65	445	445
107			Not occupied						
108			Not occupied						
109	46°15'	132°27'	V-1	1416	1442	699	0-71	837	837
110			Not occupied						
201	44°22'	125°03'	V-3	1619	1643	670	0-71	418	343
202	44°19'	125°49'	V-3	1245	1308	803	0-61	498	498
203	44°18'	126°38'	V-3	0808	0832	585	0-76	436	436
204	44°14'	127°41'	V-3	0120	0145	775	0-65	838	838
205	44°12'	128°38'	V-2	1827	1853	861	0-62	1869	1869
206	44°01'	129°33'	V-2	1212	1235	613	0-66	1688	1688
207			Not occupied						
208			Not occupied						
209			Not occupied						
210			Not occupied						
301	42°40'	125°11'	V-4	0312	0334	507	0-68	493	493
302	42°36'	125°52'	V-4	0815	0838	708	0-68	734	734
303	42°29'	126°55'	V-4	1349	1413	802	0-64	586	586
304	42°25'	127°41'	V-4	1922	1944	687	0-71	459	240
305	42°21'	128°35'	V-10	1545	1610	622	0-63	275	249
306	42°19'	129°30'	V-10	1041	1104	573	0-66	302	288
307	42°11'	130°22'	V-10	0627	0650	495	0-70	232	208
308	42°06'	131°15'	V-10	0032	0054	609	0-58	878	805
309	42°02'	132°10'	V-9	1800	1822	516	0-75	436	436
310	41°57'	133°04'	V-9	1239	1301	684	0-66	314	278
401	40°50'	124°50'	V-6	0954	1017	740	0-69	161	146
402	40°42'	125°41'	V-6	1506	1528	726	0-69	262	214
403	40°43'	126°35'	V-6	2054	2117	587	0-77	451	255
404	40°23'	127°23'	V-7	0254	0317	678	0-73	545	545
405	40°13'	128°10'	V-7	0928	0950	477	0-68	441	325
406	40°05'	129°03'	V-7	2011	2036	461	0-86	314	314
407	39°56'	129°55'	V-8	0238	0302	584	0-75	611	602
408	39°47'	130°45'	V-7	0914	0937	563	0-70	94	94
409	39°37'	131°36'	V-8	1540	1604	669	0-68	57	37
410	39°28'	132°28'	V-8	2203	2226	559	0-73	107	95

Plankton Volumes, Cruise 3, May 1949 (cont'd)

Position			Time (PST)				Vol. per 1000 C.M. strained	
		(1949)			Vol. water strained	Depth of haul	Total	Sm.org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
501	38°50'	124°09'	V-14	0017	0041	523	0-66	388	379
502	38°43'	124°54'	V-13	1849	1912	(613)	0-70	914	571
503	38°35'	125°42'	V-13	1231	1256	648	0-72	159	89
504	38°18'	126°30'	V-13	0631	0657	557	0-68	792	619
505	38°06'	127°20'	V-13	0010	0033	616	0-69	140	97
506	37°56'	128°06'	V-12	1756	1819	641	0-71	76	59
507			Occupied. Sample lost						
508	37°32'	129°48'	V-12	0336	0404	771	0-67	149	136
509	37°19'	130°36'	V-11	2035	2100	635	0-71	166	16
510	37°06'	131°20'	V-11	1435	1458	666	0-71	75	38
601			Occupied. Sample lost						
602	36°55'	123°54'	V-9	0050	0113	561	0-68	463	388
603			Occupied. Sample lost						
604	36°45'	125°28'	V-9	1350	1413	615	0-70	675	675
605	36°25'	126°24.5'	V-9	2111	2136	624	0-72	481	376
606	36°08.5'	127°14.5'	V-10	0351	0414	656	0-67	152	91
607	35°52'	128°00'	V-10	1013	1037	637	0-71	78	22
608	35°41.5'	128°36'	V-10	1512	1535	639	0-67	84	84
609	35°31'	129°25'	V-10	2109	2133	656	0-67	76	3
610	35°23'	130°09'	V-11	0224	0248	685	0-63	99	4
701	35°48'	121°52'	V-7	2212	2236	(639)	0-72	89	89
702	35°30'	122°36'	V-7	1520	1542	(586)	0-73	246	182
703	35°09'	123°26'	V-7	0832	0855	610	0-75	172	43
704	34°52'	124°07'	V-7	0204	0228	616	0-68	297	112
705	34°35'	124°43'	V-6	2012	2033	616	0-71	1022	941
706	34°19'	125°34'	V-6	1322	1347	603	0-73	126	8
707	34°02'	126°16.5'	V-6	0552	0615	620	0-70	42	32
708	33°57'	127°05'	V-5	2229	2257	648	0-71	43	29
709	33°38'	127°47'	V-5	1602	1624	626	0-74	19	19
710	33°19'	128°27'	V-5	1000	1025	652	0-72	14	14
801	33°44'	120°36'	V-2	1228	1248	600	0-74	100	88
802	33°28'	121°10'	V-2	1918	1942	648	0-70	267	238
803	33°10'	121°44'	V-3	0240	0304	810	0-68	159	75
804			Not occupied						
805			Occupied. Sample lost						
806			Not occupied						
807	32°07'	124°54'	V-4	0317	0341	784	0-70	465	23
808			Not occupied						
809	31°33'	126°31'	V-4	1455	1518	(613)	0-70	41	31
810			Not occupied						

Plankton Volumes, Cruise 3, May 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
901	32°41'	118°09'	IV-28	1458	1520	602	0-65	48	48
902	32°23'	118°48.5'	V-13	2027	2049	757	0-40	287	287
903	32°04'	119°25'	V-13	1450	1514	945	0-34	28	28
904	31°44'	120°10'	V-13	0918	0940	989	0-35	42	42
905	31°26'	120°52'	V-13	0337	0359	846	0-43	251	53
906	31°07'	121°34'	V-12	2146	2208	1094	0-33	116	57
907	30°49'	122°14.5'	V-12	1610	1632	1016	0-44	37	32
908	30°27.5'	122°55'	V-12	1019	1041	932	0-35	26	26
909	30°10'	123°36'	V-12	0427	0449	926	0-45	324	15
910	29°51'	124°15'	V-11	2226	2248	941	0-43	49	37
911	29°34'	124°56'	V-11	1639	1700	655	0-51	41	41
1001	31°18.5'	116°53'	V-8	1445	1507	581	0-69	9	9
1002	30°58'	117°36'	V-8	2055	2116	619	0-64	58	45
1003	30°38'	118°18.5'	V-9	0258	0321	696	0-56	72	63
1004	30°17'	118°55.5'	V-9	0940	1003	742	0-52	31	31
1005	29°53.5'	119°27'	V-9	1452	1514	724	0-53	90	82
1006	29°30.5'	120°05'	V-9	2055	2116	821	0-51	86	41
1007	29°07'	120°45.5'	V-10	0246	0309	791	0-58	73	66
1008	28°50'	121°18'	V-10	0808	0831	687	0-51	34	34
1009	28°29'	121°52'	V-10	1329	1351	812	0-47	39	28
1010	28°09.5'	122°26.5'	V-10	1904	1925	811	0-52	58	51
1011	27°50'	122°59.5'	V-12	0015	0037	891	0-44	30	30
1101	29°30'	116°08'	V-8	0059	0121	674	0-60	82	82
1102	29°09'	116°43'	V-7	1827	1849	877	0-45	19	19
1103	28°47'	117°21'	V-7	1241	1303	907	0-50	55	55
1104	28°26'	117°58'	V-7	0638	0700	1113	0-34	54	54
1105	28°04'	118°38'	V-5	1100	1122	926	0-44	22	22
1106	27°41'	119°15'	V-5	0417	0439	762	0-54	56	56
1107	27°19'	119°54'	V-4	2003	2025	638	0-68	66	66
1108	26°57'	120°32.5'	V-4	1506	1529	516	0-75	14	14
1109	26°34'	121°11'	V-4	0857	0921	878	0-51	25	25
1110	26°12.5'	121°46.5'	V-4	0154	0216	752	0-53	80	43
1111	25°51'	122°23'	V-3	1938	2000	786	0-56	13	13
1201	27°29'	115°20'	IV-30	1934	1957	818	0-43	55	55
1202	27°05'	115°54'	V-1	0118	0141	776	0-55	94	71
1203	26°39'	116°29.5'	V-1	0800	0822	805	0-52	15	15
1204	26°10.5'	117°02'	V-1	1419	1441	843	0-46	6	6
1205	25°49'	117°38.5'	V-1	2019	2042	798	0-62	66	66
1206	25°26'	118°16'	V-2	0122	0144	802	0-48	29	29
1207	25°02'	118°49'	V-2	0834	0858	966	0-49	8	8
1208	24°38'	119°22'	V-2	1347	1409	760	0-60	8	8
1209	24°12'	119°56'	V-2	1939	2000	913	0-50	33	9
1210	23°48'	120°30'	V-4	0125	0147	834	0-46	16	16

Plankton Volumes, Cruise 4, June 1949

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1949)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
401	40°50.5'	124°50.5'	VI-1	1851	1917	453	0-75	764	764
402	40°41'	125°40.5'	VI-5	1507	1531	707	0-77	142	142
403	40°32'	126°31'	VI-6	2106	2130	737	0-59	2144	2069
501	38°50'	124°12'	VI-8	2225	2247	433	0-64	48	48
502	38°39'	124°54'	VI-8	1640	1704	563	0-68	138	130
503	38°28'	125°42'	VI-8	1041	1105	586	0-67	614	529
504	38°18'	126°31'	VI-8	0352	0415	499	0-71	261	225
505	38°10'	127°21'	VI-7	2125	2148	590	0-67	288	254
506	37°57'	128°10'	VI-7	1506	1528	520	0-70	77	52
507	37°51'	129°03'	VI-7	0826	0850	636	0-69	32	32
508	37°36'	129°49'	VI-7	0206	0229	632	0-64	79	79
509	37°16'	130°37'	VI-6	1915	1937	527	0-76	26	26
510			Occupied. Sample lost						
601	37°15'	123°15'	VI-3	1224	1249	(591)	0-78	262	213
602	37°03'	123°57'	VI-3	1918	1943	660	0-76	156	156
603			Not occupied						
604	36°34'	125°29'	VI-4	0747	0811	528	0-74	93	76
605	36°24'	126°17'	VI-4	1426	1450	532	0-72	473	432
606	36°10'	127°05'	VI-4	2127	2149	640	0-72	180	128
607	35°58'	127°50'	VI-5	0406	0430	(590)	0-72	85	76
608	35°45'	128°38'	VI-5	1017	1039	522	0-72	19	19
609	35°32'	129°24'	VI-5	1615	1638	605	0-66	13	13
610	35°21'	130°09'	VI-5	2139	2202	613	0-70	65	33
701	35°30'	122°12'	VI-9	2019	2042	557	0-64	566	566
702			Not occupied						
703			Not occupied						
704			Not occupied						
705			Not occupied						
706	34°23'	125°35'	VI-1	1845	1909	535	0-72	75	52
707	34°07'	126°20'	VI-1	1200	1224	566	0-69	25	25
708	33°53'	127°01'	VI-1	0531	0555	584	0-74	22	22
709	33°36'	127°47'	V-31	2310	2333	564	0-71	55	44
710	33°18'	128°28'	V-31	1724	1747	678	0-70	15	15
801	33°50'	120°37'	V-28	1012	1037	548	0-71	246	210
802	33°32'	121°24'	V-28	1745	1806	554	0-66	228	228
803	33°19'	122°05'	V-29	0108	0132	712	0-53	105	105
804	32°55'	122°47'	V-29	0708	0737	864	0-68	79	61
805	32°38'	123°32'	V-29	1411	1436	613	0-67	41	41
806	32°19'	124°13'	V-29	2100	2125	642	0-70	70	54
807	32°04'	124°56'	V-30	0423	0446	(569)	0-75	97	47
808	31°48'	125°39'	V-30	1210	1233	615	0-73	10	10
809	31°32.5'	126°22'	V-30	1759	1829	788	0-68	27	27
810	31°14'	127°03'	V-31	0125	0150	757	0-66	32	21

Plankton Volumes, Cruise 4, June 1949 (cont'd)

Position			(1949)	Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
								Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
901	32°40'	118°10'	V-27	2035	2058	705	0-69	148	148
902	32°15'	118°59'	V-28	0318	0342	760	0-64	263	263
903	32°03'	119°32'	V-28	0834	0856	700	0-64	160	160
904	31°44'	120°13'	V-28	1436	1459	843	0-58	48	34
905	31°22'	120°53'	V-28	1958	2020	706	0-64	118	103
906	31°02'	121°39'	V-29	0206	0228	920	0-63	87	74
907	30°49'	122°15'	V-29	0650	0714	619	0-71	55	55
908	30°30'	122°56'	V-29	1254	1316	494	0-67	38	28
909	30°11'	123°37'	V-29	1828	1850	867	0-69	39	33
910	29°53'	124°15'	V-30	0010	0032	480	0-74	64	54
911	29°34'	124°56'	V-30	0534	0558	866	0-71	52	30
1001	31°17'	117°00'	VI-2	0816	0840	832	0-54	186	186
1002	30°58'	117°33'	VI-2	0239	0302	717	0-65	160	160
1003	30°36'	118°10'	VI-1	2025	2049	777	0-74	63	55
1004	30°15'	118°50'	VI-1	1449	1513	707	0-70	59	59
1005	29°53'	119°29'	VI-1	0834	0857	480	0-71	77	77
1006	29°31'	120°07'	VI-1	0118	0142	814	0-76	38	38
1007	29°07'	120°50'	V-31	1818	1842	764	0-68	52	52
1008	28°50'	121°20'	V-31	1311	1334	813	0-66	64	48
1009	28°31'	121°52'	V-31	0735	0758	745	0-71	35	28
1010	28°11'	122°25'	V-31	0210	0234	506	0-72	105	83
1011	27°51'	123°02'	V-30	2007	2031	774	0-71	93	65
1101	29°30'	116°05'	VI-2	1934	1956	580	0-62	86	86
1102	29°09'	116°44'	VI-3	0134	0156	869	0-69	234	234
1103	28°46'	117°25'	VI-3	0712	0736	774	0-74	43	43
1104	28°26'	117°58'	VI-3	1234	1258	607	0-61	66	54
1105	28°04'	118°36'	VI-3	1806	1830	732	0-61	67	44
1106	27°43'	119°14'	VI-4	0001	0024	692	0-68	91	79
1107	27°21'	119°52'	VI-4	0549	0612	785	0-60	85	85
1108	26°58'	120°30'	VI-4	1034	1058	613	0-75	24	24
1109	26°37'	121°07'	VI-4	1552	1614	813	0-64	26	26
1110	26°15'	121°45'	VI-4	2108	2131	627	0-71	42	10
1111	25°52'	122°23'	VI-5	0238	0300	835	0-59	36	36
1201	27°30'	115°18'	VI-7	2114	2137	729	0-70	439	439
1202	27°05'	115°53'	VI-7	1520	1542	844	0-60	142	54
1203	26°40'	116°28'	VI-7	0941	1003	610	0-77	21	21
1204	26°16'	117°03'	VI-7	0408	0432	752	0-70	21	13
1205	25°51'	117°37'	VI-6	2235	2258	634	0-77	47	47
1206	25°28'	118°16'	VI-6	1739	1802	782	0-72	36	36
1207	25°00'	118°48'	VI-6	1129	1151	752	0-67	37	37
1208	24°35'	119°24'	VI-6	0505	0529	829	0-63	31	31
1209	24°11'	119°54'	VI-5	2314	2336	819	0-63	18	12
1210	23°47'	120°30'	VI-5	1732	1754	774	0-64	12	12

Plankton Volumes, Cruise 5, July 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101	46°15'	125°05'	VII-16	0108	0131	446	0-84	303	274
102	46°15'	125°47'	VII-15	1911	1934	752	0-67	72	72
103	46°15'	126°44'	VII-15	1232	1255	(470)	0-81	149	106
104	46°15'	127°41'	VII-15	0432	0455	600	0-69	166	166
105	46°15'	128°38'	VII-14	2058	2121	623	0-73	161	133
106	46°15'	129°35'	VII-14	1211	1233	700	0-69	536	536
107	46°15'	130°33'	VII-14	0545	0608	744	0-60	153	153
108	46°15'	131°30'	VII-13	2145	2208	480	0-78	562	541
109	46°15'	132°33'	VII-13	1517	1541	573	0-75	436	393
110	46°15'	133°24'	VII-13	0729	0751	661	0-70	530	530
201	44°23'	124°55'	VII-9	1715	1730	534	0-50	356	356
202	44°20'	125°50'	VII-10	0110	0123	302	0-79	1028	1028
203	44°17'	126°46'	VII-10	0559	0612	(416)	0-64	344	245
204	44°14'	127°44'	VII-10	1255	1318	(544)	0-76	144	144
205	44°12'	128°37'	VII-10	1959	2022	(552)	0-75	725	625
206	44°09'	129°33'	VII-11	0417	0442	557	0-73	341	206
207	44°06'	130°29'	VII-11	1132	1154	692	0-67	181	173
208	44°03'	131°24'	VII-11	1951	2014	552	0-74	721	634
209	44°01'	132°20'	VII-12	0312	0335	574	0-75	226	226
210	43°58'	133°15'	VII-12	1006	1030	609	0-73	197	197
301			Not occupied						
302	42°37'	125°59'	VII-9	0015	0029	(410)	0-68	634	634
303	42°30'	126°48'	VII-8	1240	1302	567	0-77	3484	3396
304	42°25'	127°41'	VII-8	0258	0322	616	0-66	414	414
305	42°21'	128°35'	VII-7	2006	2030	583	0-68	209	172
306	42°16'	129°30'	VII-7	1331	1355	(871)	0-59	144	103
307	42°11'	130°22'	VII-7	0708	0730	(719)	0-63	560	487
308	42°06'	131°16'	VII-7	0015	0042	(803)	0-67	187	156
309	42°02'	132°10'	VII-6	1742	1805	721	0-73	430	264
310	41°57'	133°03'	VII-6	0830	0854	709	0-63	104	90
401	40°50'	124°50'	VII-2	0429	0453	878	0-64	68	68
402	40°41'	125°41'	VII-2	1258	1323	(431)	0-86	1033	1033
403	40°32'	126°32'	VII-2	2023	2046	479	0-74	3755	3755
404	40°22'	127°22'	VII-3	0348	0411	563	0-78	488	426
405	40°14'	128°15'	VII-3	1032	1100	506	0-77	1058	1058
406	40°05'	129°04'	VII-3	1858	1921	830	0-61	150	138
407A	39°56'	129°55'	VII-4	0815	0839	863	0-66	56	46
408B	39°48'	130°45'	VII-4	1303	1327	716	0-66	35	35
409	39°38'	131°36'	VII-4	2045	2115	636	0-73	24	24
410	39°29'	132°27'	VII-5	0427	0450	734	0-64	136	136

Plankton Volumes, Cruise 5, July 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
501	38°50'	124°05'	VII-2	1640	1704	629	0-71	628	358
502			Not occupied						
503			Not occupied						
504			Not occupied						
505	38°06'	127°20'	VII-3	1025	1048	618	0-60	223	223
506	37°55'	128°10'	VII-3	1638	1702	585	0-68	102	94
507	37°43'	128°58'	VII-3	2233	2300	736	0-68	58	58
508	37°32'	129°47'	VII-4	0500	0523	674	0-65	19	19
509	37°21'	130°36'	VII-4	1052	1115	752	0-60	28	28
510	37°10'	131°25'	VII-4	1711	1734	609	0-70	41	16
601	37°16'	123°10'	VII-8	1547	1610	472	0-68	403	403
602			Not occupied						
603			Not occupied						
604	36°37'	125°30'	VII-6	2108	2131	610	0-69	200	200
605	36°24'	126°17'	VII-6	1514	1537	652	0-64	80	80
606	36°11'	127°04'	VII-6	0925	0948	633	0-70	104	68
607	35°58'	127°51'	VII-6	0306	0328	598	0-72	125	125
608	35°44'	128°37'	VII-5	2105	2127	677	0-64	59	37
609	35°31'	129°24'	VII-5	1506	1528	(697)	0-64	14	14
610	35°18'	130°11'	VII-5	0823	0846	705	0-68	10	10
701	35°41'	121°50'	VII-9	0326	0350	646	0-68	268	268
702	35°25'	122°35'	VII-9	0916	0939	600	0-67	205	205
703			Not occupied						
704			Not occupied						
705			Not occupied						
706			Not occupied						
707			Not occupied						
708			Not occupied						
709			Not occupied						
710			Not occupied						
801D	33°19'	120°45'	VII-13	1346	1408	675	0-71	182	182
802D	33°09'	121°20'	VII-13	0447	0510	779	0-68	239	239
803	33°15'	122°05'	VII-13	0016	0038	778	0-62	235	235
804	32°57'	122°47'	VII-12	1723	1745	775	0-62	278	278
805	32°40'	123°30'	VII-12	1135	1157	891	0-56	147	117
806	32°22'	124°13'	VII-12	0542	0605	774	0-66	45	26
807	32°05'	124°55'	VII-11	2314	2336	742	0-64	65	65
808	31°47'	125°38'	VII-11	1616	1639	678	0-69	15	15
809	31°29'	126°20'	VII-11	0829	0853	635	0-69	28	19
810	31°11'	127°03'	VII-11	0157	0220	644	0-71	39	39
800	33°30'	120°13'	VII-13	1808	1830	739	0-66	244	244

Plankton Volumes, Cruise 5, July 1949 (cont'd)

Position			Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
		(1949)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
901	32°39'	118°09'	VII-1	0026	0049	784	0-68	204	204
902	32°22'	118°51'	VII-1	0629	0650	706	0-69	120	120
903	32°03'	119°32'	VII-1	1326	1349	639	0-74	183	183
904	31°44'	120°13'	VII-1	2142	2208	764	0-66	150	150
905	31°27'	120°53'	VII-2	0428	0452	649	0-73	83	83
906	31°08'	121°34'	VII-2	1053	1116	657	0-71	68	68
907	30°48'	122°15'	VII-2	1730	1754	690	0-71	65	55
908	30°30'	122°57'	VII-3	0026	0049	686	0-70	61	61
909	30°11'	123°37'	VII-3	0633	0657	645	0-70	39	39
910	29°51'	124°21'	VII-3	1314	1336	610	0-74	44	44
911	29°32'	124°54'	VII-3	2104	2127	653	0-73	34	34
1001	31°20'	116°55'	VII-6	2312	2334	682	0-67	95	95
1002	30°58'	117°33'	VII-6	1733	1756	607	0-70	64	64
1003	30°37'	118°12'	VII-6	1048	1110	678	0-71	53	44
1004	30°15'	118°50'	VII-6	0433	0456	635	0-72	71	55
1005	29°53'	119°29'	VII-5	2230	2253	613	0-72	62	49
1006	29°32'	120°06'	VII-5	1614	1636	654	0-69	24	24
1007	29°10'	120°46'	VII-5	1055	1118	641	0-73	62	62
1008	28°50'	121°19'	VII-5	0552	0615	666	0-70	18	18
1009	28°30'	121°52'	VII-4	2301	2323	657	0-72	91	64
1010	28°13'	122°25'	VII-4	1719	1741	683	0-74	100	75
1011	27°54'	122°58'	VII-4	1021	1043	671	0-75	113	85
1101	29°25'	116°05'	VII-7	1150	1212	724	0-68	43	43
1102	29°05'	116°43'	VII-7	1729	1751	672	0-72	95	37
1103	28°47'	117°20'	VII-8	2352	0016	682	0-69	73	73
1104	28°25'	117°58'	VII-8	0544	0606	645	0-73	101	70
1105	28°04'	118°36'	VII-8	1106	1129	642	0-72	78	78
1106	27°37'	118°14'	VII-8	1641	1704	670	0-73	25	25
1107	27°19'	119°52'	VII-8	2235	2258	523	0-69	71	71
1108	27°00'	120°29'	VII-9	0436	0458	686	0-73	42	42
1109	26°36'	121°07'	VII-9	1010	1032	420	0-72	24	24
1110	26°14'	121°48'	VII-9	1558	1620	674	0-72	25	25
1111	25°52'	122°22'	VII-9	2138	2201	900	0-70	16	16
1201	27°39'	115°25'	VII-13	1426	1448	748	0-70	72	72
1202	27°05'	115°53'	VII-12	1138	1200	690	0-71	29	29
1203	26°38'	116°33'	VII-12	0558	0621	681	0-73	22	22
1204	26°15'	117°08'	VII-11	2324	2346	681	0-71	38	38
1205	25°57'	117°37'	VII-11	1846	1908	699	0-71	39	17
1206	25°36'	118°12'	VII-11	1326	1348	718	0-70	28	28
1207	25°07'	118°46'	VII-11	0725	0747	654	0-72	43	43
1208	24°36'	119°21'	VII-11	0130	0153	693	0-72	23	23
1209	24°10'	119°56'	VII-10	1920	1943	681	0-70	20	20
1210	23°48'	120°30'	VII-10	1330	1352	481	0-73	10	10

Plankton Volumes, Cruise 6, August 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101	46°15'	125°10'	VIII-15	2127	2147	724	0-64	181	181
102	46°15'	125°47'	VIII-15	1705	1725	765	0-66	17	17
103	46°15'	126°44'	VIII-15	1105	1125	736	0-64	68	68
104	46°15'	127°41'	VIII-15	0501	0522	720	0-67	50	50
105	46°15'	128°38'	VIII-14	2307	2328	738	0-64	242	242
106	46°15'	129°35'	VIII-14	1710	1731	678	0-70	77	77
107	46°15'	130°44'	VIII-14	0911	0933	672	0-74	234	234
108	46°15'	131°30'	VIII-14	0404	0426	779	0-68	628	628
109	46°15'	132°27'	VIII-13	2145	2205	731	0-61	308	308
110	46°15'	133°24'	VIII-13	1019	1039	757	0-64	132	132
201	44°23'	125°15'	VIII-10	0424	0437	470	0-61	443	443
202	44°20'	125°50'	VIII-10	0906	0919	460	0-70	265	265
203	44°17.5'	126°46'	VIII-10	1527	1538	434	0-67	157	157
204	44°14'	127°42'	VIII-10	2212	2234	609	0-70	535	522
205	44°13'	128°37'	VIII-11	0555	0617	847	0-68	178	178
206	44°09'	129°33'	VIII-11	1200	1223	684	0-73	1241	1241
207	44°06'	130°29'	VIII-11	1903	1925	645	0-60	574	468
208	44°04'	131°20'	VIII-12	0124	0137	452	0-69	128	128
209	44°01'	132°20'	VIII-12	0808	0829	746	0-69	34	34
210	43°58'	133°15'	VIII-12	1450	1510	782	0-67	26	26
301	42°43'	125°14'	VIII-9	1126	1138	410	0-71	451	451
302	42°35'	125°54'	VIII-9	0350	0402	355	0-83	1015	1015
303	42°30'	126°48'	VIII-8	1757	1810	392	0-76	1053	1053
304	42°24'	127°50'	VIII-8	1057	1120	805	0-67	570	570
305	42°21'	128°35'	VIII-8	0517	0540	789	0-65	37	37
306	42°16'	129°29'	VIII-7	2203	2226	757	0-70	46	46
307	42°11'	130°22'	VIII-7	1608	1628	679	0-58	57	57
308	42°06'	131°16'	VIII-7	0934	0957	666	0-78	234	234
309	42°02'	132°10'	VIII-7	0242	0305	662	0-76	350	350
310	41°57'	133°03'	VIII-6	1931	1953	834	0-64	71	44
401	40°50'	124°50'	VIII-2	2044	2057	425	0-70	3595	3595
402	40°41'	125°41'	VIII-3	0419	0432	398	0-76	128	128
403	40°32'	126°32'	VIII-3	1336	1359	653	0-68	498	498
404	40°23'	127°22'	VIII-3	1955	2017	750	0-70	272	272
405	40°14'	128°14'	VIII-4	0155	0218	777	0-69	261	261
406	40°05'	129°04'	VIII-4	0814	0838	763	0-71	439	439
407	39°56'	129°56'	VIII-4	1439	1501	797	0-69	13	13
408	39°47'	130°46'	VIII-4	2128	2151	799	0-72	125	19
409	39°38'	131°36'	VIII-5	0455	0518	720	0-68	29	22
410	39°29'	132°27'	VIII-5	1729	1752	802	0-67	17	17

Plankton Volumes, Cruise 6, August 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
501	38°50'	124°05'	VIII-9	1758	1820	(682)	0-64	246	246
502			Not occupied						
503			Not occupied						
504	38°17'	126°32'	VIII-10	0852	0915	546	0-75	108	108
505	38°06'	127°20'	VIII-10	1731	1754	800	0-56	101	101
506	37°55'	128°10'	VIII-10	2342	0005	769	0-63	113	113
507	37°43'	128°58'	VIII-11	0705	0739	1053	0-62	8	8
508	37°32'	129°47'	VIII-11	1357	1420	(728)	0-62	27	27
509	37°21'	130°36'	VIII-11	2105	2128	(754)	0-60	21	21
510	37°10'	131°25'	VIII-12	0332	0355	662	0-69	92	92
601	37°12'	123°22'	VIII-15	0145	0208	578	0-71	374	374
602	37°03'	123°57'	VIII-14	2038	2102	561	0-74	568	568
603	36°50'	124°43'	VIII-14	1438	1501	736	0-64	629	629
604	36°37'	125°30'	VIII-14	0748	0812	610	0-73	15	15
605	36°24'	126°17'	VIII-14	0011	0034	568	0-72	62	62
606	36°11'	127°04'	VIII-13	1808	1832	(739)	0-64	15	15
607	35°58'	127°51'	VIII-13	1156	1219	(628)	0-70	38	38
608	35°44'	128°37'	VIII-13	0359	0422	638	0-74	25	25
609	35°31'	129°24'	VIII-12	2153	2215	(627)	0-68	65	65
610	35°18'	130°11'	VIII-12	1601	1624	(673)	0-66	9	9
701	35°41'	121°50'	VIII-16	2115	2138	726	0-59	631	631
702			Not occupied						
703			Not occupied						
704	34°54'	124°04'	VIII-17	1017	1040	(680)	0-66	60	60
705	34°39'	124°48'	VIII-17	1555	1618	(835)	0-55	21	21
706	34°23'	125°33'	VIII-17	2145	2208	605	0-73	50	50
707	34°07'	126°17'	VIII-18	0406	0428	664	0-62	27	27
708			Occupied. Sample broken						
709	33°35'	127°46'	VIII-18	1532	1554	770	0-60	13	13
710	33°19'	128°32'	VIII-18	2110	2133	812	0-60	22	22
801	33°50'	120°40'	VIII-21	2024	2046	645	0-68	98	98
802	33°32'	121°22'	VIII-21	1437	1500	(658)	0-68	90	90
803	33°15'	122°05'	VIII-21	0848	0910	(749)	0-60	41	41
804			Not occupied						
805	32°40'	123°30'	VIII-20	2205	2228	761	0-61	64	64
806	32°22'	124°13'	VIII-20	1521	1545	610	0-69	34	34
807	32°05'	124°55'	VIII-20	0846	0909	648	0-73	17	17
808	31°47'	125°38'	VIII-20	0132	0156	610	0-67	51	51
809	31°29'	126°20'	VIII-19	1920	1943	757	0-64	42	42
810	31°11'	127°03'	VIII-19	1305	1328	704	0-63	30	30
800A	33°37'	119°39'	VIII-22	0257	0320	658	0-74	219	219

Plankton Volumes, Cruise 6, August 1949 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1949)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
901	32°38'	118°10'	VIII-16	2116	2139	787	0-69	55	55
902	32°18'	118°51'	VIII-16	1449	1511	730	0-71	121	121
903	31°54'	119°31'	VIII-16	0808	0831	748	0-70	120	120
904	31°45'	120°13'	VIII-16	0132	0154	788	0-68	90	90
905	31°23'	120°54'	VIII-15	1928	1951	760	0-72	130	130
906	31°08'	121°34'	VIII-15	1217	1239	747	0-72	71	71
907	30°49.5'	122°15'	VIII-15	0411	0433	767	0-73	43	43
908	30°30'	122°55'	VIII-14	2312	2334	826	0-70	71	71
909	30°10'	123°39'	VIII-14	1713	1736	795	0-71	14	14
910	29°56'	124°15'	VIII-14	1127	1149	802	0-72	12	12
911	29°34'	124°57'	VIII-14	0558	0621	808	0-70	16	16
1001	31°18'	116°58'	VIII-11	0532	0554	875	0-68	30	30
1002	30°59'	117°33'	VIII-11	1036	1059	857	0-69	90	90
1003	30°36'	118°12'	VIII-11	1558	1620	850	0-71	34	34
1004	30°16'	118°50'	VIII-11	2154	2217	806	0-72	41	41
1005	29°50.5'	119°33'	VIII-12	0333	0355	776	0-72	37	37
1006	29°31'	120°07'	VIII-12	1041	1104	808	0-70	31	31
1007	29°08.5'	120°46'	VIII-12	1626	1648	804	0-72	24	24
1008	28°50'	121°19'	VIII-12	2140	2203	827	0-72	33	33
1009	28°31'	121°52'	VIII-13	0233	0255	795	0-70	97	97
1010	28°12'	122°25'	VIII-13	0735	0758	794	0-71	39	39
1011	27°53'	122°58'	VIII-13	1455	1517	855	0-72	25	25
1101	29°38'	116°03'	VIII-10	1704	1726	844	0-69	161	161
1102	29°21'	116°44'	VIII-10	1152	1214	861	0-71	45	45
1103	29°03'	117°20'	VIII-10	0633	0655	833	0-70	41	41
1104	28°47.5'	117°56.5'	VIII-10	0105	0127	784	0-71	88	62
1105	28°27'	118°36'	VIII-9	1447	1510	819	0-71	28	28
1106	28°01'	119°15'	VIII-9	0911	0933	807	0-70	26	26
1107	27°36'	119°52'	VIII-9	0332	0354	760	0-71	63	57
1108	27°07'	120°29'	VIII-8	2116	2139	758	0-73	50	50
1109	26°46'	121°07'	VIII-8	1515	1538	754	0-73	34	34
1110	26°14'	121°45'	VIII-8	0953	1016	758	0-74	16	16
1111	25°52'	122°24'	VIII-8	0424	0447	761	0-72	38	38
1201	27°30'	115°18'	VIII-5	0552	0615	698	0-75	63	63
1202	27°05'	115°53'	VIII-5	1425	1448	751	0-75	73	67
1203	26°41'	116°28'	VIII-5	2022	2045	762	0-73	60	60
1204	26°15.5'	117°03'	VIII-6	0220	0242	788	0-72	42	42
1205	25°51'	117°37'	VIII-6	0819	0842	776	0-72	24	24
1206	25°26'	118°12'	VIII-6	1300	1322	790	0-73	32	32
1207	25°02'	118°46'	VIII-6	1846	I909	788	0-74	28	28
1208	24°36'	119°21'	VIII-7	0018	0040	799	0-73	26	26
1209	24°07'	120°03'	VIII-7	0611	0634	808	0-71	25	25
1210	23°48'	120°30'	VIII-7	1036	1059	713	0-73	11	11

Plankton Volumes, Cruise 7, September 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101			Not occupied						
102			Not occupied						
103			Not occupied						
104			Not occupied						
105			Not occupied						
106			Not occupied						
107			Not occupied						
108			Not occupied						
109			Not occupied						
110			Not occupied						
201	44°24'	125°10'	IX-11	1825	1848	858	0-71	134	134
202	44°20'	125°50'	IX-11	2338	0001	862	0-75	234	234
203	44°17'	126°46'	IX-12	0635	0657	812	0-69	59	59
204	44°14'	127°42'	IX-12	1326	1348	649	0-72	18	18
205	44°12'	128°37'	IX-12	1950	2013	625	0-71	93	93
206	44°09'	129°33'	IX-13	0310	0333	552	0-72	207	207
207	44°06'	130°29'	IX-13	0920	0943	820	0-70	74	74
208	44°03'	131°24'	IX-13	1624	1647	493	0-74	150	150
209	44°01'	132°20'	IX-13	2248	2311	881	0-67	32	32
210	43°58'	133°15'	IX-14	0704	0727	828	0-71	33	33
301	42°40'	125°15'	IX-11	0305	0328	488	0-71	516	516
302	42°35'	125°54'	IX-10	1945	2007	544	0-69	305	305
303	42°30'	126°48'	IX-10	1159	1221	478	0-70	249	249
304	42°25'	127°41'	IX-10	0547	0610	605	0-72	35	35
305	42°21'	128°35'	IX-9	2245	2307	417	0-67	130	130
306	42°16'	129°29'	IX-9	1623	1646	1100	0-72	19	19
307	42°11'	130°22'	IX-9	1057	1120	717	0-72	39	39
308	42°06'	131°16'	IX-9	0257	0320	975	0-70	62	62
309	42°02'	132°10'	IX-8	1923	1946	587	0-70	272	272
310	41°57'	133°06'	IX-8	1252	1315	794	0-70	47	40
401	40°50'	124°47'	IX-4	1821	1842	882	0-66	209	186
402	40°41'	125°41'	IX-5	0141	0202	932	0-64	207	207
403	40°32'	126°32'	IX-5	1405	1426	617	0-69	37	37
404	40°23'	127°22'	IX-5	2125	2150	1062	0-65	118	118
405	40°14'	128°14'	IX-6	0544	0602	476	0-68	50	50
406	40°05'	129°04'	IX-6	1103	1124	780	0-62	50	29
407	39°56'	129°55'	IX-6	1740	1803	1011	0-67	24	24
408	39°47'	130°46'	IX-7	0140	0202	615	0-69	182	182
409	39°38'	131°36'	IX-7	0735	0756	782	0-69	46	46
410	39°29'	132°27'	IX-7	1458	1520	820	0-68	37	37

Plankton Volumes, Cruise 7, September 1949 (cont'd)

Position			Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
		(1949)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
501	38°45'	124°23'	IX-5	1638	1700	782	0-64	198	198
502	38°39'	124°54'	IX-5	2339	0002	699	0-71	177	177
503	38°28'	125°43'	IX-6	0816	0839	902	0-56	286	286
504	38°17'	126°32'	IX-6	1646	1708	957	0-59	165	165
505	38°06'	127°20'	IX-6	2320	2343	878	0-56	264	125
506	37°54'	128°10'	IX-7	0548	0610	771	0-64	58	58
507	37°45'	128°59'	IX-7	1140	1203	988	0-50	12	12
508	37°34'	129°47'	IX-7	1742	1805	834	0-61	30	30
509	37°21'	130°36'	IX-7	2345	0008	914	0-54	112	112
510	37°05'	131°28'	IX-8	0550	0612	1031	0-46	46	27
601	37°18'	123°12'	IX-11	0257	0321	667	0-62	1447	1327
602	37°03'	123°57'	IX-10	2040	2102	650	0-69	266	266
603	36°48'	124°42'	IX-10	1501	1524	825	0-63	684	538
604	36°37'	125°30'	IX-10	0926	0948	748	0-65	36	36
605	36°24'	126°18'	IX-10	0334	0401	900	0-60	108	108
606	36°10'	127°02'	IX-9	2141	2203	786	0-61	85	85
607	35°58'	127°51'	IX-9	1552	1614	747	0-66	51	51
608	35°43'	128°35'	IX-9	0915	0938	791	0-64	30	30
609	35°30'	129°26'	IX-9	0256	0318	915	0-54	158	158
610	35°18'	130°12'	IX-8	2018	2041	790	0-62	19	19
701	35°41'	121°50'	IX-12	2140	2203	724	0-67	215	215
702	35°24'	122°36'	IX-13	0443	0505	730	0-66	611	611
703	35°18'	123°24'	IX-13	1352	1414	808	0-62	16	16
704	34°54'	124°06'	IX-13	1920	1942	707	0-72	92	92
705	34°42'	124°48'	IX-14	0147	0210	862	0-57	46	46
706	34°24'	125°32'	IX-14	0746	0809	650	0-69	68	68
707	34°19'	126°18'	IX-14	1305	1328	663	0-68	45	45
708	33°51'	127°03'	IX-14	1846	1909	721	0-76	44	44
709	33°35'	127°47'	IX-15	0050	0112	870	0-56	34	34
710	33°19'	128°31'	IX-15	0610	0632	795	0-65	19	19
801	33°50'	120°40'	IX-18	0724	0746	826	0-60	142	142
802	33°31'	121°24'	IX-18	0130	0153	634	0-63	340	340
803	33°15'	122°08'	IX-17	1930	1952	746	0-67	241	241
804	32°56'	122°49'	IX-17	1219	1242	541	0-71	57	57
805	32°40'	123°30'	IX-17	0532	0554	887	0-56	44	44
806	32°22'	124°13'	IX-16	2237	2310	1041	0-61	49	49
807	32°05'	124°55'	IX-16	1642	1704	851	0-63	27	27
808	31°45'	125°39'	IX-16	1104	1127	725	0-69	26	26
809	31°29'	126°20'	IX-16	0524	0547	913	0-59	37	37
810	31°10'	127°08'	IX-15	2243	2306	849	0-57	32	32

Plankton Volumes, Cruise 7, September 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of hauls in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
901	32°40'	118°10'	IX-16	0613	0634	714	0-66	36	36
902	32°22'	118°50'	IX-16	0048	0111	(852)	0-60	191	191
903	32°05'	119°32'	IX-15	1910	1933	609	0-74	361	361
904	31°46'	120°15'	IX-15	1221	1244	651	0-70	48	48
905	31°25'	120°53'	IX-15	0454	0518	602	0-74	38	38
906	31°06'	121°34'	IX-14	2338	0001	647	0-65	73	73
907	30°47'	122°14'	IX-14	2031	2052	654	0-77	115	115
908	30°25'	122°56'	IX-14	1222	1245	663	0-68	50	50
909	30°12'	123°37'	IX-14	0719	0742	704	0-77	28	28
910	29°43'	124°16'	IX-14	0220	0242	662	0-68	30	30
911	29°43'	124°50'	IX-13	2052	2115	(718)	0-66	38	38
1001	31°19'	116°54'	IX-11	0335	0358	710	0-64	51	51
1002	30°58'	117°33'	IX-11	0909	0930	(656)	0-68	136	136
1003	30°37'	118°11'	IX-11	1352	1415	619	0-73	115	115
1004	30°15'	118°50'	IX-11	1934	1956	667	0-67	105	105
1005	29°53'	119°29'	IX-12	0033	0056	617	0-73	125	125
1006	29°31'	120°09'	IX-12	0534	0556	675	0-73	30	30
1007	29°10'	120°48'	IX-12	1200	1223	675	0-71	18	18
1008	28°50'	121°20'	IX-12	1532	1555	728	0-70	33	33
1009	28°30'	121°50'	IX-12	2037	2100	762	0-62	33	33
1010	28°12'	122°25'	IX-13	0107	0128	(664)	0-67	72	72
1011	27°55'	123°07'	IX-13	0618	0640	680	0-71	24	24
1101	29°35'	116°07'	IX-10	1454	1518	650	0-71	66	66
1102	29°15'	116°43'	IX-10	0832	0855	792	0-65	34	34
1103	29°02'	117°20'	IX-10	0222	0246	724	0-65	65	65
1104	28°49'	117°58'	IX-9	2140	2203	749	0-61	174	174
1105	28°12'	118°36'	IX-9	0906	0928	725	0-65	14	14
1106	27°41'	119°14'	IX-9	0304	0327	(760)	0-60	43	43
1107	27°20'	119°52'	IX-8	2104	2127	687	0-68	20	20
1108	26°58'	120°29'	IX-8	1503	1526	628	0-69	25	25
1109	26°35'	121°06'	IX-8	0843	0904	683	0-66	16	16
1110	26°13'	121°45'	IX-8	0225	0248	646	0-70	17	17
1111	25°54'	122°18'	IX-7	2036	2059	729	0-68	74	74
1201	27°30'	115°18'	IX-5	0244	0308	768	0-65	152	152
1202	27°05'	115°53'	IX-5	0738	0801	635	0-70	58	58
1203	26°38'	116°29'	IX-5	1207	1230	684	0-69	37	37
1204	26°17'	117°03'	IX-5	1713	1735	779	0-61	14	14
1205	25°51'	117°37'	IX-5	2254	2316	743	0-66	30	30
1206	25°26'	118°12'	IX-6	0421	0444	715	0-66	32	32
1207	25°02'	118°46'	IX-6	0922	0945	784	0-65	26	26
1208	24°41'	119°21'	IX-6	1428	1451	720	0-70	35	35
1209	24°15'	119°56'	IX-6	2000	2023	720	0-68	26	26
1210	23°50'	120°30'	IX-7	0119	0142	684	0-66	50	50

Plankton Volumes, Cruise 8, October 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101			Not occupied						
102			Not occupied						
103			Not occupied						
104			Not occupied						
105			Not occupied						
106			Not occupied						
107			Not occupied						
108	46°15'	131°30'	X-16	1052	1115	609	0-68	739	739
109	46°15'	132°27'	X-16	0407	0431	722	0-67	304	304
110	46°15'	133°24'	X-15	1956	2020	(699)	0-74	179	179
201	44°22'	125°10'	X-12	0055	0118	756	0-73	177	177
202	44°20'	125°50'	X-12	0719	0742	687	0-72	35	35
203	44°17'	126°46'	X-12	1423	1446	806	0-71	137	137
204			Not occupied						
205	44°12'	128°37'	X-13	0646	0708	644	0-71	102	102
206	44°09'	129°33'	X-13	1257	1319	794	0-64	50	50
207	44°06'	130°29'	X-13	1919	1942	754	0-72	74	74
208	44°03'	131°24'	X-14	0155	0217	714	0-69	112	112
209	44°02'	132°20'	X-14	1013	1036	771	0-69	26	26
210	43°58'	133°15'	X-14	1825	1848	(734)	0-69	22	22
301	42°38'	125°19'	X-11	0914	0934	607	0-62	53	53
302	42°35'	125°54'	X-11	0141	0204	664	0-70	217	217
303	42°30'	126°48'	X-10	1911	1934	732	0-68	280	280
304	42°25'	127°41'	X-10	1225	1248	655	0-71	104	104
305	42°21'	128°35'	X-10	0421	0443	759	0-67	40	40
306	42°16'	129°29'	X-9	2330	2352	665	0-72	62	62
307	42°11'	130°22'	X-9	1533	1553	616	0-71	29	29
308	42°06'	131°16'	X-9	0709	0731	728	0-70	27	27
309	42°02'	132°10'	X-8	2339	2400	(661)	0-71	110	110
310	41°55'	132°59'	X-8	1721	1742	(648)	0-70	34	34
401	40°50'	124°50'	X-5	0318	0340	633	0-70	206	206
402	40°41'	125°41'	X-5	1015	1038	675	0-72	104	104
403	40°32'	126°32'	X-5	1827	1850	723	0-68	140	140
404	40°23'	127°22'	X-6	0142	0205	762	0-72	39	39
405	40°14'	128°14'	X-6	1205	1226	497	0-74	173	173
406			Not occupied						
407			Not occupied						
408			Not occupied						
409			Not occupied						
410			Not occupied						
461	39°43'	124°23'	X-4	1612	1635	(692)	0-70	101	101

Plankton Volumes, Cruise 8, October 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
501	38°50'	124°05'	X-5	1030	1053	955	0-62	59	59
502	38°39'	124°54'	X-5	1644	1706	540	0-69	144	144
503	38°28'	125°43'	X-6	0132	0155	891	0-57	273	217
504	38°17'	126°32'	X-6	0734	0756	727	0-68	149	138
505	38°06'	127°20'	X-6	1356	1420	733	0-70	31	31
506			Occupied. No biological data taken						
507			Not occupied						
508			Not occupied						
509			Occupied. No biological data taken						
510			Occupied. No biological data taken						
601	37°16'	123°10'	X-10	0834	0856	1003	0-46	81	81
602	37°03'	123°57'	X-10	0238	0301	634	0-65	297	297
603	36°50'	124°43'	X-9	2049	2112	803	0-58	250	250
604	36°37'	125°30'	X-9	1412	1435	792	0-65	51	51
605	36°24'	126°17'	X-9	0741	0804	616	0-78	23	23
606			Not occupied						
607			Not occupied						
608			Not occupied						
609	35°31'	129°24'	X-8	1120	1144	651	0-84	17	17
610	35°18'	130°11'	X-8	0339	0402	763	0-72	38	38
661	36°35'	122°14'	X-11	2000	2022	(596)	0-80	259	259
701	35°41'	121°50'	X-12	0112	0135	788	0-60	259	259
702	35°25'	122°35'	X-12	0721	0745	703	0-71	71	71
703			Occupied. No biological data taken						
704			Occupied. No biological data taken						
705			Occupied. No biological data taken						
706	34°23'	125°33'	X-18	0938	1000	(596)	0-80	92	92
707	34°07'	126°17'	X-18	0134	0158	(820)	0-62	89	89
708	33°51'	127°02'	X-17	1833	1858	(765)	0-72	37	37
709	33°35'	127°46'	X-17	1112	1134	(750)	0-64	12	12
710	33°19'	128°32'	X-17	0050	0114	(723)	0-73	28	28
801	33°50'	120°40'	X-14	0202	0224	971	0-62	134	134
802	33°32'	121°22'	X-14	0800	0823	1144	0-53	86	86
803	33°15'	122°05'	X-14	1903	1926	(909)	0-57	99	99
804	32°57'	122°47'	X-15	0112	0136	(748)	0-67	64	64
805	32°40'	123°30'	X-15	0545	0607	(802)	0-60	24	24
806	32°22'	124°13'	X-15	1240	1302	(778)	0-62	17	17
807	32°05'	124°55'	X-15	1637	1658	(702)	0-67	36	36
808	31°47'	125°38'	X-15	2304	2326	(751)	0-64	33	33
809	31°29'	126°20'	X-16	0348	0410	(854)	0-55	47	47
810	31°11'	127°03'	X-16	0955	1018	(833)	0-61	23	23
871	33°00'	119°00'	X-19	2123	2146	(691)	0-71	29	29

Plankton Volumes, Cruise 8, October 1949 (cont'd)

Position			Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
		(1949)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
901	32°36'	118°09'	X-15	2303	2326	551	0-73	107	107
901E	32°40'	118°10'	X-3	1406	1428	756	0-66	52	52
902	32°22'	118°50'	X-15	1705	1728	650	0-67	34	34
902E	32°20'	118°26'	X-3	1908	1930	728	0-62	118	118
903	31°47'	119°35'	X-15	0947	1010	(707)	0-65	51	51
904	31°33'	120°12'	X-15	0426	0449	605	0-64	149	149
905	31°17'	120°52'	X-14	2126	2149	648	0-62	102	102
906	31°02'	121°32'	X-14	1536	1559	703	0-64	36	36
907	30°50'	122°15'	X-14	1004	1027	590	0-75	107	107
908	30°30'	122°55'	X-14	0432	0455	638	0-70	107	107
909	30°11'	123°37'	X-13	2229	2252	714	0-68	39	39
910	29°54'	124°13'	X-13	1735	1758	652	0-67	49	49
911	29°38'	124°48'	X-13	1205	1227	648	0-71	31	17
1001	31°12'	117°00'	X-10	1730	1752	763	0-64	28	28
1002	30°56'	117°35'	X-10	2219	2242	703	0-68	1032	1032
1003	30°36'	118°12'	X-11	0330	0353	610	0-70	82	82
1004	30°15'	118°50'	X-11	0911	0934	624	0-72	32	32
1005	30°00'	119°27'	X-11	1603	1626	673	0-64	48	48
1006	29°35'	120°08'	X-11	2127	2150	695	0-72	79	79
1007	29°17'	120°47'	X-12	0240	0303	706	0-65	139	139
1008	28°54'	121°19'	X-12	0735	0758	617	0-76	31	31
1009	28°46'	121°54'	X-12	1238	1301	670	0-68	27	27
1010	28°22'	122°26'	X-12	1625	1647	755	0-62	19	19
1011	27°59'	122°56'	X-12	2049	2112	697	0-64	46	46
1061	30°23'	116°47'	X-10	1054	1117	658	0-73	53	53
1101	29°35'	116°11'	X-10	0216	0238	688	0-69	112	112
1102	29°08'	116°43'	X-9	2013	2036	709	0-71	100	100
1103	28°46'	117°20'	X-9	1340	1403	686	0-71	29	29
1104	28°23'	117°54'	X-9	0837	0900	670	0-72	116	54
1105	28°00'	118°36'	X-9	0224	0247	607	0-72	283	283
1106	27°38'	119°15'	X-8	2028	2051	702	0-69	37	37
1107	27°13'	119°53'	X-8	1412	1434	593	0-74	20	20
1108	26°54'	120°29'	X-8	0805	0828	695	0-71	29	29
1109	26°36'	121°07'	X-8	0246	0309	652	0-74	64	64
1110	26°17'	121°40'	X-7	2134	2157	706	0-69	40	40
1111			Not occupied						
1201	27°26'	115°23'	X-5	0627	0650	587	0-74	85	85
1202	27°08'	115°54'	X-5	1116	1139	699	0-71	3766	3766
1203	26°40'	116°28'	X-5	1629	1653	661	0-74	47	47
1204	26°15'	117°03'	X-5	2135	2157	729	0-68	60	60
1205	25°51'	117°37'	X-6	0241	0304	676	0-72	47	47
1206	25°26'	118°12'	X-6	0818	0841	687	0-68	20	20
1207	25°02'	118°46'	X-6	1302	1325	684	0-72	12	12
1208	24°36'	119°21'	X-6	1810	1833	636	0-74	11	11
1209	24°11'	119°56'	X-6	2317	2340	716	0-68	27	27
1210	23°46'	120°26'	X-7	0356	0419	622	0-76	31	31

Plankton Volumes, Cruise 9, November 1949

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
101	46°15'	124°50'	XI-20	2124	2147	773	0-66	107	107
102			Occupied. Sample not quantitative						
103			Not occupied						
104			Not occupied						
105			Not occupied						
106			Not occupied						
107			Not occupied						
108			Not occupied						
109			Not occupied						
110			Not occupied						
201	44°24'	124°56'	XI-20	0703	0726	833	0-72	637	637
202	44°20'	125°50'	XI-19	2338	2400	786	0-72	115	115
203	44°17'	126°46'	XI-19	1633	1656	626	0-73	97	97
204	44°14'	127°42'	XI-19	0938	1001	767	0-70	111	111
205	44°12'	128°37'	XI-19	0134	0157	812	0-71	108	108
206	44°09'	129°33'	XI-18	1438	1501	782	0-73	187	187
207	44°06'	130°29'	XI-18	0654	0717	878	0-69	75	75
208	44°03'	131°24'	XI-17	2143	2206	723	0-73	102	102
209	44°01'	132°20'	XI-17	1428	1451	803	0-67	117	117
210	43°58'	133°15'	XI-17	0740	0803	768	0-70	36	36
301	42°40'	125°00'	XI-23	0138	0201	801	0-71	132	132
302	42°35'	125°54'	XI-23	1155	1218	734	0-72	95	95
303	42°30'	126°48'	XI-23	1847	1910	782	0-67	84	84
304	42°25'	127°41'	XI-24	0300	0322	712	0-72	163	163
305	42°21'	128°35'	XI-24	1108	1131	802	0-68	72	21
306	42°16'	129°29'	XI-24	1817	1840	889	0-59	74	74
307	42°11'	130°22'	XI-25	0300	0322	769	0-71	56	56
308	42°06'	131°16'	XI-25	1108	1130	747	0-71	37	37
309			Not occupied						
310	41°57'	133°03'	XI-15	2259	2321	819	0-71	33	33
401	40°50'	124°50'	XI-12	0506	0528	738	0-78	57	57
402	40°41'	125°41'	XI-12	1335	1358	744	0-73	51	51
403	40°32'	126°32'	XI-12	2129	2152	849	0-64	71	71
404	40°23'	127°22'	XI-13	0434	0456	789	0-70	66	66
405	40°14'	128°14'	XI-13	1200	1222	791	0-68	47	47
406	40°05'	129°04'	XI-13	1954	2017	739	0-74	122	122
407	39°56'	129°55'	XI-14	0440	0502	863	0-68	44	44
408	39°47'	130°46'	XI-14	1227	1250	862	0-72	29	29
409	39°38'	131°36'	XI-14	1913	1935	795	0-72	42	42
410	39°29'	132°27'	XI-15	0222	0245	688	0-80	58	58
461	39°43'	124°24'	XI-11	1800	1823	779	0-75	218	218

Plankton Volumes, Cruise 9, November 1949 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1949) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
501	38°50'	124°05'	XI-8	1430	1454	(931)	0-66	247	247
502			Occupied. Sample not quantitative						
503	38°28'	125°43'	XI-9	0759	0822	(895)	0-66	24	24
504	38°22'	126°32'	XI-9	1613	1638	(976)	0-66	93	93
505	38°06'	127°20'	XI-10	0255	0320	(867)	0-72	121	121
506	37°55'	128°10'	XI-10	0944	1007	844	0-72	50	50
507	37°45'	129°00'	XI-10	1740	1803	735	0-76	35	35
508	37°32'	129°48'	XI-10	2202	2226	882	0-72	43	43
509	37°21'	130°36'	XI-11	0447	0510	818	0-74	52	52
510	37°11'	131°15'	XI-11	1203	1225	883	0-67	25	25
601	37°16'	123°10'	XI-14	0701	0713	479	0-68	94	94
602	37°01'	124°01'	XI-14	0046	0059	413	0-76	344	344
603	36°50'	124°43'	XI-13	1908	1921	494	0-72	348	348
604	36°37'	125°31'	XI-13	1317	1342	(924)	0-69	180	180
605	36°24'	126°17'	XI-13	0746	0808	898	0-68	89	89
606	36°12'	126°58'	XI-13	0225	0248	787	0-70	79	79
607	35°58'	127°51'	XI-12	2001	2024	963	0-66	40	40
608	35°44'	128°32'	XI-12	1433	1456	837	0-70	24	24
609	35°31'	129°23'	XI-12	0831	0855	909	0-68	18	18
610	35°18'	130°11'	XI-12	0137	0202	824	0-72	22	22
661	36°35'	122°15'	XI-15	2102	2115	610	0-62	161	161
701	35°41'	121°50'	XI-16	0255	0306	417	0-74	254	254
702	35°25'	122°35'	XI-16	0828	0840	466	0-63	122	122
703	35°09'	123°25'	XI-16	1354	1409	506	0-70	251	251
704	34°54'	124°04'	XI-16	1902	1914	384	0-77	253	253
705	34°33'	124°51'	XI-17	0040	0052	456	0-70	33	33
706	34°13'	125°40'	XI-17	0622	0646	854	0-64	15	15
707	34°10'	126°21'	XI-17	1111	1135	850	0-65	58	58
708			Occupied. Sample lost						
709	33°34'	127°45'	XI-17	2223	2245	(722)	0-75	33	33
710	33°21'	128°16'	XI-18	0412	0436	(783)	0-74	18	18
801	33°50'	120°40'	XI-20	2007	2030	1008	0-67	128	116
802	33°32'	121°22'	XI-20	1407	1430	758	0-71	29	29
803	33°15'	122°05'	XI-20	0824	0836	419	0-72	45	45
804	32°56'	122°48'	XI-20	0239	0252	420	0-75	167	167
805	32°40'	123°30'	XI-19	2110	2132	799	0-70	56	56
806	32°22'	124°13'	XI-19	1622	1644	719	0-73	15	15
807	32°05'	124°55'	XI-19	1158	1220	792	0-67	32	32
808	31°47'	125°38'	XI-19	0606	0629	(829)	0-69	22	22
809	31°29'	126°20'	XI-19	0029	0051	(908)	0-63	22	22
810	31°11'	127°03'	XI-18	1839	1902	693	0-78	17	17
871	33°00'	119°00'	XI-21	0717	0741	714	0-74	11	11

Plankton Volumes, Cruise 9, November 1949 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1949)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
901	32°40'	118°11'	XI-19	0656	0718	746	0-69	21	21
902	32°18'	118°50'	XI-19	0149	0212	766	0-64	33	33
903	32°03'	119°32'	XI-18	2013	2036	722	0-69	78	78
904	31°44'	120°13'	XI-18	1536	1600	742	0-69	57	57
905	31°27'	120°49'	XI-18	1036	1059	694	0-71	42	42
906	31°07'	121°30'	XI-18	0432	0455	711	0-70	70	70
907	30°48'	122°15'	XI-18	0015	0038	773	0-65	135	135
908	30°30'	122°56'	XI-17	1851	1913	710	0-69	68	68
909	30°10'	123°37'	XI-17	1130	1152	757	0-68	79	79
910	29°50'	124°16'	XI-17	0707	0730	760	0-66	36	36
911	29°34'	124°52'	XI-17	0225	0248	841	0-62	34	34
1001	31°24'	116°56'	XI-14	0606	0629	841	0-65	495	495
1002	31°03'	117°35'	XI-14	1108	1130	793	0-68	43	43
1003	30°40'	118°12'	XI-14	1653	1716	787	0-67	84	84
1004	30°21'	118°50'	XI-14	2220	2243	747	0-68	62	62
1005	29°56'	119°29'	XI-15	0351	0414	772	0-66	107	107
1006	29°25'	120°07'	XI-15	0947	1009	762	0-68	96	96
1007	29°09'	120°46'	XI-15	1430	1452	831	0-64	96	96
1008	28°43'	121°15'	XI-15	2104	2126	760	0-67	61	61
1009	28°31'	121°52'	XI-16	0101	0123	815	0-61	36	36
1010	28°09'	122°26'	XI-16	0814	0838	758	0-67	20	20
1011	27°56'	122°59'	XI-16	1232	1254	749	0-67	28	28
1061	30°14'	116°21'	XI-13	2108	2131	867	0-57	47	47
1101	29°30'	116°05'	XI-13	1601	1624	813	0-66	74	74
1102	29°12'	116°41'	XI-13	1101	1124	846	0-66	28	28
1103	28°51'	117°19'	XI-13	0608	0631	776	0-69	23	23
1104	28°30'	117°58'	XI-13	0127	0151	754	0-69	42	42
1105	28°10'	118°38'	XI-12	0813	0936	808	0-71	21	21
1106	27°48'	119°14'	XI-12	0343	0406	804	0-68	55	55
1107	27°27'	119°51'	XI-11	2116	2138	784	0-70	100	100
1108	27°05'	120°29'	XI-11	1609	1632	751	0-70	32	32
1109	26°37'	121°06'	XI-11	1013	1036	738	0-70	14	14
1110	26°14'	121°44'	XI-11	0245	0308	763	0-68	79	79
1201	27°30'	115°18'	XI-8	0809	0832	742	0-75	26	26
1202			Occupied. Deep tow taken						
1203	26°40'	116°28'	XI-8	1937	2000	805	0-64	173	173
1204	26°16'	117°03'	XI-9	0128	0150	730	0-69	74	74
1205	25°51'	117°35'	XI-9	0643	0706	775	0-67	54	54
1206	25°26'	118°12'	XI-9	1243	1306	822	0-67	22	22
1207	25°01'	118°48'	XI-9	1745	1808	860	0-65	65	65
1208	24°37'	119°21'	XI-9	2252	2314	796	0-67	33	33
1209			Occupied. Deep tow taken						
1210	23°52'	120°30'	XI-10	1014	1036	849	0-70	8	8

Plankton Volumes, Cruise 11, February 1950

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
50.55	39°30'	124°30'	II-16	1258	1321	786	0-69	318	156
50.60	39°20'	124°52'	II-16	1703	1726	778	0-71	251	238
50.70	39°00'	125°36.5'	II-16	2332	2356	824	0-67	204	204
50.80	38°40'	126°21'	II-17	0628	0653	848	0-77	98	98
50.90	38°20'	127°05'	II-17	1218	1241	769	0-68	129	122
50.100	38°00'	127°49'	II-17	1847	1911	849	0-69	247	247
50.110	37°40'	128°33'	II-18	0237	0301	788	0-70	190	190
50.120	37°20'	129°16.5'	II-18	0912	0936	820	0-69	48	48
50.120	37°00'	130°00'	II-18	1727	1752	804	0-71	112	112
55.60			Occupied. Deep tow taken						
60.60	37°37'	123°37'	II-15	1217	1240	820	0-67	271	271
60.70	37°17'	124°21'	II-15	0648	0711	743	0-70	162	151
60.80	36°57'	125°04'	II-15	0010	0034	666	0-70	368	368
60.90	36°37'	125°47'	II-14	1803	1826	690	0-70	195	195
60.100	36°17'	126°30'	II-14	1133	1156	705	0-73	230	230
60.110	35°57'	127°12'	II-14	0537	0601	782	0-70	169	169
60.120	35°37'	127°54.5'	II-13	2257	2321	797	0-68	206	163
60.130			Occupied. Deep tow taken						
61.55	37°37'	123°07.5'	II-15	1709	1721	435	0-67	1038	1038
65.60	36°45'	123°00'	II-8	0838	0902	851	0-68	1902	1902
70.55	36°03'	122°02'	II-8	1740	1806	792	0-75	2707	2707
70.60	35°51'	122°21'	II-2	0400	0423	671	0-70	406	406
70.70	35°33'	123°06'	II-2	1145	1208	695	0-70	571	571
70.80	35°12'	123°48'	II-2	1615	1640	695	0-71	678	678
70.90	34°53'	124°30'	II-2	2221	2243	607	0-77	155	155
70.100	34°32.5'	125°12'	II-3	0450	0513	624	0-71	780	780
70.110			Occupied. No biological data taken						
70.120			Not occupied						
70.130			Not occupied						
75.60	35°01'	121°46'	II-9	0226	0253	906	0-78	2146	2146
80.55	34°19'	120°48'	II-9	1242	1256	478	0-66	2014	2014
80.60	34°09'	121°09'	II-9	1728	1740	467	0-64	5591	5591
80.70	33°49'	121°51'	II-9	2347	0001	536	0-63	999	999
80.80	33°29'	122°32'	II-10	0702	0726	753	0-72	5196	5196
80.90	33°09'	123°13'	II-10	1453	1506	410	0-74	548	548
80.100	32°49'	123°54'	II-11	0903	0926	777	0-70	3063	3063
80.110	32°29'	124°34.5'	II-11	1941	1956	556	0-70	129	129
80.120	32°09'	125°15.5'	II-5	0818	0843	830	0-68	152	152
80.130	31°49'	125°56'	II-5	0131	0159	962	0-75	37	37

Plankton Volumes, Cruise 11, February 1950 (cont'd)

Sta.	Position N.lat.	Position W.long.	(1950) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
83.55	33°44'	120°24'	II-10	1100	1112	378	0-66	12164	12164
83.60	33°33'	120°45'	II-10	0644	0656	415	0-64	14595	14595
83.70	33°15'	121°25'	II-10	0035	0047	398	0-69	13287	13287
83.80	32°56'	122°04'	II-9	1829	1851	378	0-72	5075	5075
83.90	32°38'	122°41'	II-9	1243	1255	379	0-70	1413	1413
87.35	33°50'	118°37.5'	II-7	1802	1825	647	0-71	116	87
87.40	33°40'	118°58'	II-7	2202	2225	604	0-73	116	116
87.50	33°20'	119°39'	II-8	0357	0409	337	0-35	965	965
87.60	33°00'	120°23'	II-8	1030	1042	343	0-71	8334	8334
87.70	32°40'	121°05'	II-8	1632	1646	390	0-73	616	616
87.80	32°20'	121°42'	II-8	2220	2232	394	0-68	1956	1956
87.90	32°00'	122°24'	II-9	0510	0522	339	0-76	915	915
90.30	33°24.5'	117°55'	II-7	1155	1218	690	0-68	68	68
90.37	33°13'	118°24'	II-7	0715	0738	602	0-72	279	113
90.45	33°00'	118°56'	II-7	0139	0202	631	0-74	117	117
90.53	32°42'	119°30'	II-6	2051	2114	703	0-69	215	215
90.60	32°30'	119°55.5'	II-6	1627	1640	361	0-74	194	116
90.70	32°06'	120°38'	II-6	1052	1104	351	0-70	1296	1296
90.80	31°45'	121°19'	II-6	0415	0437	602	0-70	8991	8991
90.90	31°25'	122°00'	II-5	2206	2228	574	0-72	113	113
90.100	31°05'	122°40'	II-5	1534	1556	621	0-69	126	126
90.110	30°45'	123°20'	II-5	0940	1001	745	0-62	124	124
90.120	30°24.5'	124°00'	II-5	0302	0325	674	0-70	36	36
93.30	32°50'	117°31'	II-11	0432	0444	373	0-69	188	188
93.40	32°28'	118°12'	II-11	0922	0935	389	0-71	489	489
93.50	32°08'	118°55'	II-11	1800	1813	387	0-64	135	135
93.60			Not occupied						
93.70	31°30'	120°14'	II-12	0440	0453	362	0-77	608	265
93.80	31°07.5'	120°55'	II-12	1230	1242	337	0-72	125	125
93.90	30°49'	121°31'	II-12	1720	1733	374	0-74	45	45
97.32	32°11'	117°17'	II-14	1123	1135	359	0-72	67	67
97.40	31°55'	117°50'	II-14	0636	0649	366	0-73	260	85
97.50	31°35'	118°30'	II-14	0026	0039	394	0-66	1488	1488
97.60	31°13'	119°11'	II-13	1802	1818	417	0-60	1022	1022
97.70	30°52'	119°50'	II-13	1205	1217	357	0-71	1148	1148
97.80	30°31'	120°31'	II-13	0549	0602	340	0-76	188	188
97.90	30°16'	121°09.5'	II-12	2333	2345	387	0-70	155	155

Plankton Volumes, Cruise 11, February 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.30	31°40.5'	116°46.5'	II-12	1517	1540	881	0-59	20	20
100.40	31°21'	117°27'	II-12	0925	0948	684	0-68	249	249
100.50	31°01'	118°07'	II-12	0227	0251	706	0-68	194	123
100.60	30°41'	118°47.5'	II-11	2221	2246	698	0-66	652	652
100.70	30°20.5'	119°27'	II-11	1811	1834	723	0-70	237	237
100.80	30°01'	120°07'	II-11	1304	1329	630	0-73	40	40
100.90	29°40.5'	120°47'	II-11	0544	0607	725	0-70	114	81
100.100	29°20.5'	121°27'	II-10	2336	2400	666	0-70	641	641
100.110	29°00.5'	122°07'	II-10	1708	1729	603	0-75	23	23
100.120	28°40.5'	122°46'	II-10	1053	1116	744	0-67	30	30
105.35	30°39'	116°33'	I-31	0236	0302	769	0-70	82	72
110.35	29°46.5'	116°00'	II-7	2130	2155	508	0-80	407	16
110.40	29°36.5'	116°19.5'	II-8	0127	0150	793	0-65	295	11
110.50	29°16.5'	116°59'	II-8	0723	0746	705	0-65	58	21
110.60	28°56.5'	117°39'	II-8	1340	1403	648	0-78	12	12
110.70	28°36.5'	118°18'	II-8	1931	1955	592	0-78	463	463
110.80	28°16.5'	118°57.5'	II-9	0203	0227	738	0-70	24	24
110.90	27°56.5'	119°36'	II-9	0811	0834	739	0-64	28	28
110.100	27°36.5'	120°15'	II-9	1358	1422	727	0-67	18	18
110.110	27°16.5'	120°54.5'	II-9	2043	2106	670	0-71	25	25
115.40	28°45'	115°46.5'	II-7	1338	1401	694	0-70	55	55
120.35	28°03'	114°54'	II-6	0953	1008	360	0-46	14	14
120.45	27°43'	115°33'	II-6	0337	0401	687	0-63	74	74
120.50	27°33'	115°52.5'	II-5	2249	2312	621	0-69	71	71
120.60	27°13'	116°31.5'	II-5	1703	1728	811	0-64	22	22
120.70	26°52.5'	117°10'	II-5	1028	1051	644	0-74	26	26
120.80	26°32.5'	117°48.5'	II-5	0423	0446	773	0-63	272	6
120.90	26°13'	118°27.5'	II-5	0014	0039	859	0-59	31	31
120.100	25°53'	119°06'	II-4	1551	1615	827	0-62	28	28
120.110	25°33'	119°44'	II-4	1002	1024	804	0-61	20	20
123.40	27°18'	114°51.5'	II-1	0223	0247	687	0-70	20	20
123.50	26°58'	115°30.5'	II-1	0652	0715	631	0-72	16	16
123.60	26°38.5'	116°09'	II-1	1212	1235	566	0-63	29	29
127.40	26°43.5'	114°29.5'	II-2	0728	0751	780	0-61	17	17
127.50	26°23.5'	115°08'	II-2	0103	0126	525	0-70	30	30
127.60	26°03.5'	115°46.5'	II-1	1911	1935	778	0-68	39	39
130.35	26°19'	113°48.5'	II-2	1345	1412	997	0-55	44	44
130.40	26°09'	114°07.5'	II-2	1649	1713	693	0-69	12	12
130.50	25°49'	114°48.5'	II-2	2234	2257	701	0-70	49	49
130.60	25°29'	115°24'	II-3	0441	0513	810	0-62	69	69
130.70	25°08.5'	116°02'	II-3	1055	1118	590	0-77	32	32
130.80	24°48.5'	116°40'	II-3	1710	1734	672	0-68	19	19

Plankton Volumes, Cruise 12, March 1950

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
40.45			Occupied. Sample not quantitative						
40.50	41°23'	125°23'	III-13	0919	0943	703	0-73	675	675
40.60	41°03'	126°09'	III-13	0318	0331	422	0-68	367	315
40.70	40°42'	126°55'	III-12	2145	2158	465	0-68	247	247
40.80	40°23'	127°40'	III-12	1626	1638	419	0-69	501	501
40.90	40°02'	128°25'	III-12	1008	1020	446	0-64	397	397
40.100	39°42'	129°10'	III-12	0353	0406	410	0-69	200	200
40.110	39°23'	129°55'	III-11	2139	2203	811	0-67	117	56
43.50	40°48'	124°57'	III-13	2333	2356	750	0-72	620	620
43.60	40°28'	125°43'	III-14	0403	0426	733	0-72	246	191
47.55	40°04'	124°55'	III-14	1522	1536	505	0-68	376	376
47.60			Occupied. Deep tow taken						
50.55			Occupied. Deep tow taken						
50.60	39°20'	124°52'	III-8	2205	2229	748	0-71	154	140
50.70	39°00'	125°36.5'	III-9	0317	0339	710	0-72	3013	3013
50.80	38°40'	126°21'	III-9	1328	1340	416	0-69	288	288
50.90	38°20'	127°05'	III-9	2146	2200	430	0-70	319	286
50.100	38°00'	127°49'	III-10	0552	0605	429	0-71	135	135
50.110	37°40'	128°33'	III-10	1212	1236	718	0-68	151	151
50.120	37°20'	129°16.5'	III-10	1923	1946	627	0-73	526	526
50.130	37°00'	130°00'	III-11	0347	0412	758	0-66	133	133
55.60	38°28.5'	124°14'	III-8	0331	0355	839	0-70	120	120
60.60	37°37'	123°37'	III-7	1037	1051	404	0-67	52	52
60.70	37°17'	124°21'	III-7	0350	0413	674	0-67	2009	2009
60.80	36°57'	125°04'	III-6	1935	1958	715	0-71	225	225
60.90	36°37'	125°47'	III-6	1232	1256	730	0-66	269	269
60.100	36°17'	126°30'	III-6	0423	0445	654	0-74	734	688
60.110	35°57'	127°12'	III-5	2201	2225	730	0-68	99	79
60.120			Occupied. Deep tow taken						
60.130	35°17'	128°37'	III-5	0432	0456	740	0-70	58	58
61.55	37°37'	123°07.5'	III-7	1744	1808	879	0-62	739	739
65.60	36°45'	123°00'	III-1	2133	2149	522	0-69	1924	1924
70.55	36°03'	122°02'	III-2	0823	0838	492	0-65	980	980
70.60	35°53'	122°23'	III-2	1357	1421	834	0-68	232	106
70.70	35°33'	123°06'	III-2	2111	2136	784	0-69	2734	2734
70.80	35°13'	123°48'	III-3	0403	0416	425	0-64	1107	1107
70.90	34°53'	124°30'	III-3	1039	1053	461	0-70	347	347
70.100	34°33'	125°12'	III-3	1658	1721	783	0-69	642	642
70.110	34°13'	125°54'	III-3	2338	0002	795	0-68	1229	1229
70.120	33°53'	126°35.5'	III-4	0638	0651	551	0-65	5282	5282
70.130	33°33'	127°16.5'	III-4	1225	1237	452	0-66	409	409

Plankton Volumes, Cruise 12, March 1950 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
80.55	34°19'	120°48'	III-2	1105	1128	696	0-70	119	119
80.60	34°09'	121°09'	III-2	1512	1534	626	0-73	4392	4392
80.70	33°48'	121°50'	III-2	2137	2151	421	0-74	6192	6192
80.80	33°26'	122°32'	III-3	0415	0428	414	0-69	3452	3452
80.90			Occupied. Sample not quantitative						
80.100	32°48'	123°56'	III-3	1745	1758	403	0-73	2357	2357
80.110	32°29'	124°34'	III-4	0038	0051	451	0-69	51	51
80.120	32°10'	125°13'	III-4	0730	0753	717	0-69	80	80
80.130	31°49'	125°56'	III-4	1545	1608	716	0-70	66	66
83.55			Not occupied						
83.60			Not occupied						
83.70			Not occupied						
83.80	32°55'	122°06'	III-10	1537	1549	360	0-68	3512	3512
83.90	32°42'	122°49'	III-10	0820	0842	772	0-60	5566	5566
87.35	33°50'	118°38'	III-12	1548	1610	756	0-65	164	164
87.40	33°40'	118°58'	III-12	2020	2033	456	0-64	616	511
87.50	33°20'	119°39'	III-13	0135	0142	229	0-36	193	153
87.60	32°59'	120°21'	III-13	0848	0901	439	0-67	3946	3857
87.70			Occupied. No biological data taken						
87.80			Not occupied						
87.90			Not occupied						
90.30	33°24.5'	117°55.6'	III-16	0212	0225	(394)	0-71	938	938
90.37	33°11'	118°23.5'	III-16	0744	0757	(385)	0-69	1010	1010
90.45	32°54.5'	118°56'	III-16	1332	1343	(377)	0-67	578	578
90.53	32°38.5'	119°29'	III-16	1931	1944	(352)	0-75	525	369
90.60			Not occupied						
90.70			Not occupied						
90.80			Not occupied						
90.90	31°23'	122°07'	III-6	0615	0638	606	0-73	50	50
90.100	31°05'	122°40'	III-5	2244	2307	632	0-73	48	48
90.110			Occupied. Deep tow taken						
90.120			Occupied. Deep tow taken						
93.30	32°50'	117°31.5'	III-18	0620	0632	(434)	0-62	964	964
93.40	32°30'	118°12.5'	III-17	2330	2343	(380)	0-70	3884	3884
93.50	32°10'	118°53.5'	III-17	1602	1616	(420)	0-70	1226	988
93.60	31°42'	119°15'	III-17	0828	0841	(393)	0-68	377	377
93.70			Not occupied						
93.80			Not occupied						
93.90			Not occupied						
97.32			Not occupied						
97.40			Not occupied						
97.50			Not occupied						
97.60			Not occupied						
97.70			Not occupied						
97.80			Not occupied						
97.90			Not occupied						

Plankton Volumes, Cruise 12, March 1950 (cont'd)

Position			(1950)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.30	31°42.2'	116°48.5'	III-15	0027	0050	696	0-73	287	172
100.40	31°23'	117°24'	III-14	1812	1824	419	0-63	1205	979
100.50	31°04'	118°05'	III-14	1205	1228	781	0-57	806	806
100.60	30°45'	118°43'	III-14	0625	0647	697	0-61	587	569
100.70	30°23.8'	119°26.8'	III-14	0021	0033	438	0-63	2727	2727
100.80	30°04'	120°07.5'	III-13	1837	1900	720	0-62	5924	5924
100.90	29°44'	120°47'	III-13	1240	1302	713	0-71	28	28
100.100	29°20.5'	121°27'	III-13	0630	0653	700	0-78	46	46
100.110	29°01'	122°07'	III-13	0034	0056	838	0-61	41	41
100.120			Occupied. Deep tow taken						
105.35	30°39'	116°33'	III-2	0007	0030	(818)	0-65	62	26
110.35	29°46.5'	116°00'	III-9	1752	1814	800	0-69	24	24
110.40	29°36.5'	116°19'	III-9	2125	2147	(702)	0-76	53	53
110.50	29°15'	116°59'	III-10	0336	0359	(723)	0-75	46	46
110.60	28°53'	117°39'	III-10	0905	0928	784	0-73	13	13
110.70	28°39'	118°18'	III-10	1306	1329	696	0-76	17	17
110.80	28°13.5'	118°57.5'	III-11	1010	1033	724	0-71	21	21
110.90	27°56.5'	119°36'	III-11	1537	1559	845	0-61	17	17
110.100	27°36.5'	120°15'	III-11	2113	2135	710	0-77	25	25
110.110	27°16.5'	120°55'	III-12	0440	0502	833	0-68	41	41
113.35	29°12'	115°39'	III-9	1316	1338	833	0-69	35	35
117.35	28°37'	115°16'	III-9	0810	0832	666	0-70	33	33
120.35	28°03'	114°54'	III-9	0438	0457	616	0-56	89	89
120.45			Occupied. Deep tow taken						
120.50	27°31'	115°52.6'	III-8	0114	0137	933	0-56	45	45
120.60	27°14.2'	116°32'	III-7	1848	1910	841	0-63	55	55
120.70	26°54.5'	117°10'	III-7	1309	1332	874	0-63	18	18
120.80	26°33.5'	117°51'	III-7	0628	0651	770	0-71	35	35
120.90	26°14'	118°27'	III-7	0010	0032	722	0-72	29	29
120.100	25°33'	119°04'	III-6	1825	1848	778	0-70	18	18
120.110			Occupied. Deep tow taken						
123.40	27°18'	114°51.5'	III-2	2134	2159	(809)	0-80	41	41
123.50	26°55.5'	115°30.7'	III-3	0402	0424	703	0-75	46	46
123.60	26°30'	116°16'	III-3	1036	1059	777	0-71	12	12
127.40	26°43.5'	114°30'	III-4	0502	0525	779	0-70	19	19
127.50	26°23'	115°08'	III-3	2256	2319	640	0-79	30	30
127.60	26°03'	115°46.3'	III-3	1642	1704	723	0-77	32	32
130.35	26°10.4'	113°46.3'	III-4	1141	1203	743	0-70	77	77
130.40	26°09'	114°08'	III-4	1551	1614	765	0-72	26	26
130.50	25°51.5'	114°45'	III-4	2034	2057	716	0-72	73	73
130.60	25°31'	115°30'	III-5	0437	0459	799	0-64	28	28
130.70	25°08.5'	116°02'	III-5	1106	1129	815	0-72	22	22
130.80	24°49'	116°40'	III-5	1730	1752	760	0-69	18	18

Plankton Volumes, Cruise 13, April 1950

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
40.45	41°33'	125°00'	IV-15	2037	2051	521	0-68	378	378
40.50	41°23'	125°23'	IV-15	1612	1636	880	0-68	474	474
40.60	41°03'	126°09'	IV-15	1032	1055	779	0-70	322	322
40.70	40°42'	126°55'	IV-15	0458	0511	465	0-69	546	546
40.80			Occupied. Deep tow taken						
40.90	40°02'	128°25'	IV-14	1444	1506	787	0-68	389	389
40.100	39°42'	129°10'	IV-14	0806	0831	724	0-69	193	193
40.110	39°23'	129°55'	IV-14	0328	0341	446	0-68	168	168
43.50	40°48'	124°57'	IV-16	0343	0356	482	0-70	400	400
43.60	40°28'	125°43'	IV-16	1012	1036	826	0-70	1170	1170
47.55			Occupied. Deep tow taken						
47.60	39°54'	125°18'	IV-16	1628	1650	789	0-71	672	644
50.55	39°30'	124°30'	IV-10	1402	1426	919	0-68	182	169
50.60	39°20'	124°52'	IV-10	1843	1907	842	0-70	331	331
50.70			Occupied. Deep tow taken						
50.80	38°40'	126°21'	IV-11	1212	1235	556	0-77	419	419
50.90	38°20'	127°05'	IV-11	1926	1951	880	0-66	2793	2572
50.100	38°00'	127°49'	IV-12	0613	0626	440	0-71	3490	3490
50.110	37°40'	128°33'	IV-12	1128	1143	537	0-66	279	237
50.120	37°20'	129°16.5'	IV-12	1857	1911	466	0-70	421	365
50.130	37°00'	130°00'	IV-13	0250	0306	481	0-70	303	303
55.60	38°28.5'	124°14'	IV-10	0342	0356	487	0-70	567	357
60.60	37°35'	123°40'	IV-9	1113	1126	469	0-70	104	104
60.70			Occupied. Deep tow taken						
60.80	36°57'	125°04'	IV-8	2055	2111	563	0-68	2829	2829
60.90	36°37'	125°47'	IV-8	1409	1432	884	0-68	516	506
60.100	36°17'	126°30'	IV-8	0848	0911	1034	0-69	1506	1473
60.110	35°57'	127°12'	IV-7	2252	2316	820	0-66	91	91
60.120	35°37'	127°54.5'	IV-7	1612	1636	895	0-69	35	30
60.130	35°17'	128°37'	IV-7	0828	0851	815	0-69	22	22
61.55	37°37'	123°07.5'	IV-9	1713	1736	890	0-68	296	296
65.60	36°45'	123°00'	IV-3	2208	2228	741	0-58	4384	4384
70.55	36°04'	122°03'	IV-4	0740	0753	614	0-68	1369	1369
70.60	35°53'	122°23'	IV-4	1310	1324	605	0-70	1193	1193
70.70	35°33'	123°06'	IV-4	2012	2026	516	0-63	233	204
70.80	35°13'	123°48'	IV-5	0251	0316	813	0-69	3034	3034
70.90	34°53'	124°30'	IV-5	0958	1010	516	0-63	673	487
70.100	34°33'	125°12'	IV-5	1624	1636	491	0-70	18	18
70.110	34°13'	125°54'	IV-5	2248	2311	908	0-63	108	108
70.120	33°53'	126°35.5'	IV-6	0618	0641	804	0-71	12	12
70.130	33°33'	127°16.5'	IV-6	1213	1236	843	0-69	12	12

Plankton Volumes, Cruise 13, April 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
80.55	34°21'	120°50'	IV-4	0835	0849	479	0-71	267	267
80.60	34°09'	121°09'	IV-4	1253	1306	434	0-72	758	758
80.70	33°49'	121°51'	IV-4	1838	1851	486	0-61	10387	10387
80.80	33°30'	122°37'	IV-5	0053	0106	420	0-66	1810	1810
80.90	33°09'	123°13'	IV-5	0633	0646	444	0-65	3655	3655
80.100	32°49'	123°54'	IV-5	1259	1311	459	0-59	791	791
80.110	32°29'	124°34.5'	IV-5	1843	1856	440	0-69	346	346
80.120	32°08'	125°16'	IV-6	0124	0137	391	0-75	28	28
80.130			Occupied. Deep tow taken						
83.55	33°42'	120°24'	IV-12	0403	0415	610	0-55	1708	1708
83.60	33°34'	120°45'	IV-11	2350	0004	396	0-77	8229	8229
83.70	33°13'	121°24'	IV-11	1725	1739	475	0-71	244	244
83.80	32°56'	122°05'	IV-11	1136	1148	424	0-74	59	59
83.90	32°29'	122°46.5'	IV-11	0518	0531	459	0-69	468	468
87.35	33°50'	118°37'	IV-9	1621	1634	450	0-68	333	333
87.40	33°40'	118°58'	IV-9	1840	1855	488	0-71	5043	5043
87.50			Not occupied						
87.60	32°55'	120°22'	IV-10	0428	0441	377	0-81	7256	7256
87.70	32°39'	121°06'	IV-10	1027	1040	292	0-89	870	870
87.80	32°18.5'	121°41'	IV-10	1620	1632	392	0-77	998	998
87.90	31°54.5'	122°22'	IV-10	2301	2314	407	0-74	59	59
90.30	33°24'	117°55'	IV-9	0928	0941	445	0-67	3284	3284
90.37	33°11'	118°23'	IV-9	0443	0456	461	0-71	7639	7639
90.45	32°54'	118°56'	IV-8	2325	2340	405	0-76	5812	5812
90.53	32°36'	119°28'	IV-8	1832	1847	394	0-73	1044	1044
90.60	32°26'	119°56'	IV-8	1357	1411	405	0-77	292	292
90.70	32°06'	120°37'	IV-8	0730	0755	1015	0-68	441	441
90.80	31°47'	121°15'	IV-8	0142	0156	382	0-77	52	52
90.90	31°25'	121°59'	IV-7	1930	1953	733	0-74	108	108
90.100	31°03'	122°42'	IV-7	1342	1405	731	0-77	19	19
90.110	30°39'	123°24'	IV-7	0645	0707	869	0-63	22	22
90.120	30°22'	124°02'	IV-6	2309	2332	846	0-69	35	35
93.30	32°51'	117°32'	IV-12	1900	1913	388	0-77	2482	2482
93.40	32°30'	118°12.5'	IV-13	0037	0051	450	0-71	2414	2414
93.50	32°10'	118°53.5'	IV-13	0713	0727	331	0-83	257	151
93.60	31°50'	119°34'	IV-13	1515	1528	319	0-75	408	408
93.70			Not occupied						
93.80			Not occupied						
93.90			Not occupied						
97.32	32°11.5'	117°17'	IV-15	0848	0900	439	0-63	1169	1169
97.40	31°55'	117°56'	IV-15	0428	0441	452	0-69	303	303
97.50	31°37'	118°20.5'	IV-15	0033	0046	421	0-71	162	162
97.60			Not occupied						
97.70	30°55'	119°50.5'	IV-14	1707	1721	461	0-60	121	121
97.80	30°30'	120°34'	IV-14	1135	1148	360	0-84	200	172
97.90	30°13'	121°14'	IV-14	0552	0606	346	0-81	506	478

Plankton Volumes, Cruise 13, April 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.30	31°40.8'	116°47'	IV-17	0045	0058	374	0-69	497	497
100.40	31°20'	117°27'	IV-16	1646	1708	554	0-65	4123	4123
100.50	30°59'	118°08'	IV-16	1041	1103	643	0-69	770	770
100.60	30°40'	118°50'	IV-16	0417	0440	625	0-69	106	93
100.70	30°19.5'	119°29.5'	IV-15	2206	2228	652	0-67	110	110
100.80	29°57.2'	120°10'	IV-15	1556	1619	709	0-71	34	30
100.90	29°36'	120°49'	IV-15	1011	1033	703	0-70	23	23
100.100	29°17'	121°29'	IV-15	0351	0413	674	0-70	46	37
100.110	28°57.5'	122°08.5'	IV-14	2135	2158	685	0-71	31	31
100.120	28°39.5'	122°48.5'	IV-14	1525	1548	646	0-72	17	17
105.35	30°39'	116°32.7'	IV-3	2229	2252	678	0-65	210	140
110.35	29°46.5'	116°01'	IV-11	1416	1438	512	0-69	457	457
110.40	29°36.5'	116°20'	IV-11	1806	1828	667	0-69	525	525
110.50	29°13.5'	116°59'	IV-11	2350	0013	689	0-67	86	86
110.60	28°50'	117°40'	IV-12	0555	0618	680	0-69	25	25
110.70	28°36'	118°18.5'	IV-12	2240	2303	705	0-70	53	43
110.80	28°15.8'	118°57'	IV-13	0430	0453	675	0-71	83	83
110.90	28°00'	119°35'	IV-13	1026	1048	661	0-67	24	24
110.100	27°38.7'	120°17.5'	IV-13	1555	1618	689	0-70	22	22
110.110	27°22'	120°53'	IV-13	2146	2208	686	0-70	29	29
113.35	29°12.5'	115°39'	IV-11	0809	0831	615	0-73	89	75
117.35	28°36.8'	115°16'	IV-11	0241	0303	657	0-71	134	134
120.35	28°03.8'	114°54.6'	IV-10	0825	0837	362	0-72	1525	1525
120.45	27°39.5'	115°32'	IV-10	0008	0031	665	0-71	319	234
120.50	27°31'	115°54'	IV-9	2026	2048	686	0-69	118	89
120.60	27°13.5'	116°33'	IV-9	1450	1513	711	0-70	18	18
120.70	26°51.5'	117°14'	IV-9	1016	1038	685	0-71	25	25
120.80	26°32.2'	117°51.2'	IV-9	0418	0441	661	0-72	53	53
120.90	26°12.5'	118°29'	IV-8	2125	2148	706	0-68	50	50
120.100	25°52.5'	119°06'	IV-8	1626	1648	712	0-67	20	20
120.110			Occupied. Deep tow taken						
123.40	27°16.2'	114°51'	IV-5	0321	0344	622	0-70	122	122
123.50	27°02'	115°30'	IV-5	0903	0926	670	0-70	63	63
123.60	26°38'	116°09'	IV-5	1400	1423	670	0-70	24	24
127.40	26°43'	114°29.5'	IV-6	0715	0737	644	0-68	65	65
127.50	26°21.3'	115°11.5'	IV-6	0046	0109	617	0-73	97	94
127.60	26°04'	115°46.8'	IV-5	1951	2014	654	0-71	63	63
130.35	26°16'	113°45'	IV-6	1406	1429	663	0-69	195	195
130.40	26°09'	114°07.3'	IV-6	1730	1753	543	0-71	94	94
130.50	25°49'	114°46.5'	IV-6	2320	2344	681	0-68	69	63
130.60	25°29'	115°24'	IV-7	0430	0453	696	0-68	43	42
130.70	25°12'	116°02.8'	IV-7	1115	1138	693	0-69	42	42
130.80			Occupied. Deep tow taken						

Plankton Volumes, Cruise 14, May 1950

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
40.45			Occupied. Deep tow taken						
40.50	41°23'	125°23'	V-16	1127	1141	517	0-63	201	201
40.60	41°03'	126°09'	V-16	0402	0416	(378)	0-71	421	421
40.70	40°42'	126°55'	V-15	2037	2051	(364)	0-73	285	285
40.80	40°43'	127°40'	V-15	1232	1256	610	0-72	513	513
40.90	40°02'	128°25'	V-15	0311	0336	806	0-71	1137	1075
40.100	39°42'	129°10'	V-14	1717	1741	598	0-74	339	339
40.110			Occupied. Deep tow taken						
43.50	40°48'	124°57'	V-16	2306	2321	478	0-68	356	356
43.60	40°28'	125°43'	V-17	0607	0631	795	0-65	187	187
47.55			Occupied. No biological data taken						
47.60	39°54'	125°18'	V-17	1157	1221	733	0-74	686	657
50.55	39°30'	124°30'	V-10	2153	2206	439	0-58	160	160
50.60	39°20'	124°52'	V-11	0257	0321	575	0-75	1182	1182
50.70	39°00'	125°36.5'	V-11	1043	1106	560	0-70	872	872
50.80	38°40'	126°21'	V-11	1742	1805	983	0-64	2327	2327
50.90	38°20'	127°05'	V-12	0012	0026	444	0-73	5771	5771
50.100	38°00'	127°45'	V-12	0717	0731	290	0-69	2815	2815
50.110	37°40'	128°33'	V-12	1407	1421	204	0-69	1645	1645
50.120	37°20'	129°16.5'	V-12	2031	2046	476	0-68	206	206
50.130	37°00'	130°00'	V-13	0319	0344	818	0-66	208	208
55.60			Occupied. Deep tow taken						
60.60	37°37'	123°37'	V-8	1857	1910	(397)	0-69	569	569
60.70	37°17'	124°21'	V-8	1041	1106	(719)	0-69	320	320
60.80	36°57'	125°04'	V-8	0056	0111	324	0-70	3917	3917
60.90	36°37'	125°47'	V-7	1623	1638	(491)	0-66	96	96
60.100	36°18'	126°30'	V-7	0626	0657	(992)	0-65	1512	1512
60.110	35°57'	127°12'	V-6	2042	2055	584	0-61	36	36
60.120	35°37'	127°54.5'	V-6	1207	1231	667	0-73	70	70
60.130	35°17'	128°37'	V-6	0252	0316	551	0-69	1914	1914
61.55	37°37'	123°07.5'	V-9	0047	0111	758	0-68	4970	4970
65.60	36°45'	123°00'	V-2	2224	2238	446	0-70	4442	4442
70.55	36°03'	122°02'	V-3	0447	0501	453	0-68	9580	9580
70.60	35°53'	122°23'	V-3	0928	0939	314	0-55	544	497
70.70	35°33'	123°06'	V-3	1618	1630	437	0-66	2570	2570
70.80	35°13'	123°48'	V-3	2351	0006	383	0-68	6702	6702
70.90	34°53'	124°30'	V-4	0658	0711	467	0-67	26	26
70.100	34°33'	125°12'	V-4	1358	1422	589	0-68	131	80
70.110	34°13'	125°56'	V-4	2027	2051	(672)	0-70	1291	1291
70.120	33°53'	126°35.5'	V-5	0332	0356	(733)	0-68	55	55
70.130	33°33'	127°16.5'	V-5	0948	1011	762	0-70	26	26

Plankton Volumes, Cruise 14, May 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
80.55	34°21'	120°50'	V-3	0752	0817	1021	0-61	2940	2940
80.60	34°10'	121°10'	V-3	1151	1204	501	0-69	595	595
80.70	33°50'	121°51'	V-3	1759	1813	488	0-69	1524	1524
80.80	33°28'	122°32'	V-4	0013	0027	548	0-66	78	78
80.90	33°09'	123°13'	V-4	0633	0646	483	0-59	145	145
80.100	32°49'	123°54'	V-4	1258	1311	487	0-61	246	189
80.110	32°29'	124°34.5'	V-4	1848	1901	412	0-73	248	248
80.120	32°09'	125°15.5'	V-5	0129	0142	340	0-85	35	35
80.130	31°50'	125°57'	V-5	0653	0706	448	0-74	27	27
83.55	33°44'	120°24.5'	V-12	0237	0251	551	0-56	3436	3436
83.60	33°34'	120°45'	V-11	2229	2242	421	0-72	5714	5714
83.70	33°14.5'	121°26'	V-11	1624	1636	642	0-39	97	50
83.80	32°49'	122°06'	V-11	0916	0939	734	0-75	143	143
83.90	32°33'	122°47'	V-11	0343	0406	785	0-70	519	506
87.35	33°50'	118°37.5'	V-9	1058	1110	454	0-73	507	507
87.40	33°40'	118°58.5'	V-9	1654	1706	619	0-46	912	912
87.50	33°20'	119°39.5'	V-9	2114	2126	463	0-64	505	505
87.60	33°00'	120°21.5'	V-10	0248	0301	445	0-71	4876	4876
87.70	32°40'	121°04'	V-10	0816	0830	476	0-66	36	36
87.80	32°19.5'	121°43'	V-10	1508	1531	839	0-65	41	41
87.90	32°00'	122°25'	V-10	2034	2058	1060	0-49	41	36
90.30	33°24.5'	117°55'	V-8	1209	1221	546	0-52	59	49
90.37	33°11'	118°23.5'	V-8	0737	0750	556	0-50	2537	2537
90.45	32°56'	118°57'	V-8	0158	0211	489	0-66	6960	6960
90.53	32°35'	119°26'	V-7	2048	2051	443	0-63	5218	5218
90.60	32°25'	119°56'	V-7	1548	1611	706	0-75	1223	1104
90.70	32°04.5'	120°39'	V-7	0823	0846	811	0-66	38	38
90.80	31°50'	121°19'	V-7	0304	0328	670	0-81	30	30
90.90	31°27'	121°59'	V-6	1958	2021	742	0-72	26	26
90.100	31°04.5'	122°40'	V-6	1300	1323	945	0-53	10	10
90.110	30°46'	123°16'	V-6	0613	0636	797	0-69	25	25
90.120	30°24.5'	124°01'	V-5	2252	2316	745	0-73	38	38
93.30	32°50'	117°31.5'	V-12	1720	1744	926	0-57	1310	1310
93.40	32°30'	118°12.5'	V-12	2259	2311	448	0-58	1741	1741
93.50	32°07'	118°57'	V-13	0438	0453	634	0-43	144	144
93.60	31°49'	119°34'	V-13	1053	1116	756	0-69	169	74
93.70	31°28'	120°16'	V-13	1658	1721	876	0-63	726	726
93.80	31°04'	120°58.5'	V-13	2318	2331	443	0-71	558	558
93.90	30°37'	121°45'	V-14	0536	0548	453	0-65	73	73
97.32	32°11.5'	117°17'	V-16	0023	0036	457	0-71	2448	2448
97.40	31°56'	117°51'	V-15	1850	1903	584	0-47	1490	1490
97.50	31°36'	118°32'	V-15	1228	1241	482	0-61	276	276
97.60	31°15.5'	119°10.5'	V-15	0628	0640	591	0-45	132	132
97.70	30°55'	119°50.5'	V-15	0047	0101	403	0-79	226	226
97.80	30°35'	120°31'	V-14	1800	1813	519	0-60	146	146
97.90	30°07.5'	121°11'	V-14	1158	1211	352	0-88	114	114

Plankton Volumes, Cruise 14, May 1950 (cont'd)

Position			(1950)	Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
								Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.30	31°40'	116°46'	V-15	1924	1936	362	0-68	566	566
100.40	31°27'	117°21'	V-15	1355	1418	576	0-71	891	891
100.50	31°07'	118°02'	V-15	0704	0727	524	0-70	153	115
100.60	30°45'	118°44'	V-15	0124	0147	623	0-71	265	265
100.70	30°25'	119°24'	V-14	1956	2018	645	0-70	205	178
100.80	30°05'	120°04'	V-14	1410	1433	635	0-71	32	32
100.90	29°43'	120°43'	V-14	0836	0859	592	0-72	81	81
100.100	29°23'	121°25'	V-14	0251	0314	568	0-73	234	203
100.110	29°04'	122°02'	V-13	2121	2144	647	0-72	65	48
100.120	28°44'	122°38'	V-13	1523	1546	658	0-72	18	18
105.35	30°33'	116°39'	V-2	2334	2358	736	0-64	976	976
110.35	29°40'	116°03'	V-11	0803	0826	654	0-68	339	339
110.40	29°29'	116°22'	V-11	1041	1105	685	0-67	162	99
110.50	29°16'	116°59'	V-11	1625	1648	712	0-68	52	52
110.60	28°55'	117°40'	V-11	2206	2229	684	0-68	61	61
110.70	28°33'	118°24'	V-12	0344	0407	692	0-70	33	33
110.80	28°17'	118°55'	V-12	0840	0904	657	0-70	15	15
110.90	27°55'	119°35'	V-12	1504	1527	652	0-70	21	21
110.100	27°38'	120°16'	V-12	2050	2114	657	0-72	20	20
110.110	27°22'	120°55'	V-13	0220	0243	644	0-72	22	22
113.35	29°11'	115°41'	V-11	0035	0058	580	0-71	250	121
117.35	28°37'	115°16'	V-10	1904	1927	722	0-66	245	245
120.35	28°03'	114°54'	V-10	1412	1431	363	0-56	105	105
120.45	27°42'	115°32'	V-9	1054	1117	580	0-71	86	86
120.50	27°39'	115°53'	V-9	0623	0647	679	0-73	15	15
120.60	27°20'	116°33'	V-9	0043	0106	725	0-70	74	50
120.70	27°03'	117°07'	V-8	1850	1914	672	0-74	82	37
120.80	26°46'	117°53'	V-8	1302	1324	730	0-69	21	21
120.90	26°24'	118°32'	V-8	0839	0903	688	0-72	22	22
120.100	26°00'	119°07.5'	V-8	0048	0111	525	0-73	44	44
120.110			Occupied. Deep tow taken						
123.40	27°16'	114°54.5'	V-4	0318	0332	419	0-68	394	394
123.50	26°57'	115°31'	V-4	0858	0922	696	0-70	73	73
123.60	26°37.3'	116°09.5'	V-4	1427	1450	692	0-74	33	33
127.40	26°39'	114°33'	V-5	0841	0904	676	0-72	56	56
127.50	26°23'	115°08.5'	V-5	0246	0308	556	0-71	155	155
127.60	26°05'	115°48'	V-4	2027	2050	694	0-74	63	63
130.35	26°19'	113°48'	V-5	1524	1547	500	0-71	164	164
130.40	26°10'	114°08'	V-5	1923	1946	631	0-69	222	222
130.50	25°49'	114°45'	V-6	0153	0217	654	0-72	107	107
130.60	25°28'	115°23'	V-6	0807	0830	691	0-69	29	29
130.70	25°08'	116°10'	V-6	1445	1509	750	0-68	29	29
130.80			Occupied. Deep tow taken						

Plankton Volumes, Cruise 15, June 1950

Sta.	Position N.lat.	Position W.long.	(1950) Date	Time (PST) Start	Time (PST) End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Vol.per 1000 C.M.strained Sm.org. cc.
40.45			Not occupied						
40.50			Not occupied						
40.60			Not occupied						
40.70	40°42'	126°55'	VI-20	1613	1626	376	0-75	497	415
40.80	40°23'	127°40'	VI-20	0759	0814	448	0-67	925	925
40.90	40°02'	128°25'	VI-20	0108	0121	408	0-68	975	975
40.100	39°42'	129°10'	VI-19	1818	1831	389	0-71	751	708
40.110	39°23'	129°55'	VI-19	1143	1156	397	0-72	146	146
43.50			Not occupied						
43.60			Not occupied						
47.55			Not occupied						
47.60			Not occupied						
50.55	39°30'	124°30'	VI-16	1557	1611	344	0-68	529	529
50.60	39°20'	124°52'	VI-16	2003	2016	390	0-68	592	474
50.70	39°00'	125°36.5'	VI-17	0214	0227	413	0-65	630	630
50.80	38°40'	126°21'	VI-17	0833	0846	394	0-67	371	371
50.90	38°20'	127°05'	VI-17	1524	1536	373	0-68	1688	1688
50.100	38°00'	127°49'	VI-17	2309	2322	291	0-68	868	868
50.110	37°40'	128°33'	VI-18	0517	0530	369	0-72	152	152
50.120	37°20'	129°16.5'	VI-18	1114	1126	351	0-66	402	330
50.130	37°00'	130°00'	VI-18	1653	1706	302	0-71	219	182
53.54	38°58'	124°00'	VI-16	0951	1003	330	0-68	648	648
53.64	38°38'	124°44'	VI-15	0003	0016	325	0-72	486	455
57.54	38°24'	123°35'	VI-15	0916	0929	411	0-65	80	80
57.64	38°04'	124°19'	VI-15	1522	1539	444	0-71	153	153
60.60	37°37'	123°37'	VI-14	1615	1629	353	0-71	326	289
60.70	37°17'	124°21'	VI-14	0936	0951	398	0-64	667	667
60.80	36°57'	125°04'	VI-14	0208	0221	359	0-72	613	613
60.90	36°37'	125°47'	VI-13	1808	1831	662	0-69	925	925
60.100	36°17'	126°30'	VI-13	1029	1053	713	0-70	52	52
60.110	35°57'	127°12'	VI-13	0323	0337	380	0-72	132	132
60.120	35°37'	127°54.5'	VI-12	1947	2012	734	0-72	249	249
60.130	35°17'	128°37'	VI-12	1208	1230	696	0-72	194	194
61.55	37°37'	123°07.5'	VI-14	2113	2126	380	0-61	975	975
63.57	37°09'	122°58'	VI-5	1818	1830	433	0-74	86	86
63.67	36°49'	123°41'	VI-6	0618	0632	365	0-72	1463	1463
67.55	36°39'	122°26'	VI-7	0818	0831	386	0-73	246	246
67.65	36°19'	123°09'	VI-6	1709	1724	625	0-42	112	112
70.55	36°03'	122°02'	VI-9	0923	0942	662	0-81	41	41
70.60	35°53'	122°23'	VI-9	1421	1444	606	0-69	291	291
70.70	35°33'	123°06'	VI-9	2049	2115	542	0-66	400	358
70.80	35°13'	123°48'	VI-10	0415	0439	382	0-68	568	568
70.90	34°53'	124°30'	VI-10	1039	1101	444	0-68	890	890
70.100	34°33'	125°12'	VI-10	1758	1813	343	0-77	108	108
70.110	34°13'	125°54'	VI-11	0124	0149	643	0-67	146	146
70.120	33°53'	126°35.5'	VI-11	0940	1003	586	0-70	77	77
70.130	33°33'	127°16.5'	VI-11	1652	1716	562	0-70	70	70

Plankton Volumes, Cruise 15, June 1950 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
73.51	35°35'	121°20'	VI-8	0700	0713	382	0-76	115	115
73.61	35°15'	122°03'	VI-8	1226	1239	413	0-68	247	247
77.55	34°54'	121°13'	VI-9	0000	0014	(425)	0-67	133	133
77.65	34°34'	121°55'	VI-8	1740	1753	387	0-78	539	354
80.55	34°19'	120°48'	VI-9	0500	0514	417	0-75	489	489
80.60	34°09'	121°09'	VI-9	0901	0914	358	0-82	148	148
80.70	33°49'	121°58'	VI-9	1445	1458	404	0-69	218	198
80.80	33°31'	122°33'	VI-9	1946	1958	385	0-68	436	436
80.90	33°12'	123°12'	VI-10	0201	0213	359	0-70	92	92
80.100	32°49'	123°56'	VI-10	0751	0803	364	0-69	162	121
80.110	32°29'	124°34'	VI-10	1321	1333	384	0-69	130	60
80.120	32°09'	125°15'	VI-10	1926	1938	381	0-67	52	52
80.130	31°49'	125°56'	VI-11	0116	0128	384	0-70	36	36
83.55	33°41'	120°25'	VI-16	0605	0618	291	0-71	412	412
83.60	33°32'	120°45'	VI-16	0220	0233	267	0-68	187	187
83.70	33°13'	121°25'	VI-15	2110	2123	385	0-72	930	930
83.80	32°54'	122°07'	VI-15	1541	1553	370	0-70	89	89
83.90	32°36'	122°46'	VI-15	1055	1108	376	0-72	19	19
87.35	33°49'	118°37'	VI-13	2316	2328	387	0-66	372	372
87.40	33°40'	118°58'	VI-14	0230	0244	433	0-70	198	198
86.50			Not occupied						
87.60	33°00'	120°21'	VI-14	1120	1133	372	0-70	121	121
87.70	32°39'	121°03'	VI-14	1715	1728	392	0-74	102	102
87.80	32°20'	121°43'	VI-14	2305	2318	379	0-71	129	129
87.90	32°01'	122°24'	VI-15	0616	0628	370	0-72	32	32
90.30	33°24'	117°55'	VI-13	1741	1753	437	0-57	2313	2313
90.37	33°11'	118°24'	VI-13	1231	1243	377	0-71	313	313
90.45	32°56'	118°58'	VI-13	0716	0729	394	0-71	503	503
90.53	32°40'	119°30'	VI-13	0206	0219	357	0-67	219	219
90.60	32°22'	120°00'	VI-12	2100	2113	352	0-71	327	327
90.70	32°00'	120°44'	VI-12	1601	1614	387	0-74	310	269
90.80	31°39'	121°21'	VI-12	1025	1038	408	0-74	15	15
90.90	31°20'	122°02'	VI-12	0550	0603	408	0-74	27	27
90.100	31°02'	122°41'	VI-12	0000	0013	388	0-73	39	39
90.110	30°43'	123°21'	VI-11	1845	1858	389	0-73	46	46
90.120	30°24'	124°02'	VI-11	1351	1403	392	0-69	31	31
93.30	32°47'	117°31'	VI-18	0350	0403	402	0-68	447	447
93.40	32°29'	118°13'	VI-18	0846	0858	343	0-71	105	105
93.50	32°10'	118°53'	VI-18	1415	1428	400	0-71	82	82
93.60	31°51'	119°36'	VI-18	1925	1938	313	0-84	287	287
93.70	31°32'	120°16'	VI-19	0045	0058	343	0-73	443	443
93.80	31°13'	120°56'	VI-19	0605	0618	356	0-74	95	95
93.90	30°54'	121°38'	VI-19	1246	1258	388	0-69	33	33
97.32			Occupied. No biological data taken						
97.40	31°56'	117°52'	VI-20	2035	2048	317	0-71	98	98
97.50	31°31'	118°28'	VI-20	1531	1543	323	0-68	99	99
97.60	31°13'	119°09'	VI-20	1220	1233	339	0-69	144	144
97.70	30°54'	119°50'	VI-20	0530	0543	369	0-70	293	293

Plankton Volumes, Cruise 15, June 1950 (cont'd)

Position			(1950)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
97.80	30°35'	120°31'	VI-19	2340	2353	372	0-70	183	183
97.90	30°16'	121°12'	VI-19	1745	1758	358	0-78	39	39
100.30	31°40.5'	116°46.5'	VI-23	0149	0211	855	0-64	129	129
100.40			Not occupied						
100.50			Not occupied						
100.60			Not occupied						
100.70			Not occupied						
100.80			Not occupied						
100.90			Not occupied						
100.100			Not occupied						
100.110			Not occupied						
100.120			Not occupied						
105.35	30°09'	116°33'	VI-22	1544	1604	493	0-60	130	130
110.35	29°46.5'	116°00'	VI-22	0644	0707	620	0-69	274	274
110.45			Not occupied						
110.50			Not occupied						
110.60			Not occupied						
110.70			Not occupied						
110.80			Not occupied						
110.90			Not occupied						
110.100			Not occupied						
110.110			Not occupied						
113.35	29°12'	115°39'	VI-22	0009	0031	646	0-67	163	163
117.35	28°37'	115°16'	VI-21	1808	1833	484	0-69	93	93
120.35	28°03'	114°54'	VI-21	1234	1256	443	0-68	59	59
120.45	27°43'	115°33'	VI-21	0649	0710	602	0-62	146	146
120.50	27°33'	115°52.5'	VI-20	1934	1953	597	0-59	184	184
120.60	27°13'	116°31.5'	VI-20	1024	1046	700	0-62	20	20
120.70			Not occupied						
120.80			Not occupied						
120.90			Not occupied						
120.100			Not occupied						
120.110			Not occupied						
123.40	27°18'	114°51.5'	VI-12	0909	0932	786	0-67	56	56
123.40E	27°18'	114°51.5'	VI-19	2159	2221	726	0-64	78	78
123.50	26°58'	115°30.5'	VI-19	1504	1526	736	0-66	39	39
123.60	26°38.5'	116°09'	VI-19	0859	0921	688	0-68	16	16
127.40	26°43.5'	114°29.5'	VI-18	1127	1151	690	0-70	55	55
127.50	26°23.5'	115°08'	VI-18	1819	1841	698	0-69	32	32
127.60	26°03.5'	115°46.5'	VI-19	0014	0036	699	0-72	86	86
130.35	26°22'	113°54'	VI-14	1014	I036	726	0-70	37	37
130.40	26°09'	114°07.5'	VI-14	1507	1530	681	0-66	79	79
130.50	25°49'	114°46'	VI-14	2314	2336	691	0-69	94	75
130.60			Not occupied						
130.70			Not occupied						
130.80			Not occupied						

Plankton Volumes, Cruise 16, July 1950

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
40.45	41°33'	125°00'	VII-22	1658	1710	320	0-68	1056	1056
40.50	41°23'	125°23'	VII-22	1252	1306	369	0-69	406	406
40.60	41°03'	126°09'	VII-22	0442	0456	348	0-75	2201	2201
40.70	40°42'	126°55'	VII-21	2112	2226	357	0-70	1323	1323
40.80	40°23'	127°40'	VII-21	1302	1326	659	0-72	1205	1205
40.90	40°02'	128°25'	VII-21	0540	0554	344	0-76	302	302
40.100	39°42'	129°10'	VII-20	2057	2121	653	0-71	580	580
40.110	39°23'	129°55'	VII-20	1413	1436	622	0-72	161	161
43.50	40°48'	124°57'	VII-22	2357	2411	294	0-70	1777	1777
43.60	40°28'	125°43'	VII-23	0533	0546	227	0-77	2947	2947
47.55	40°04'	124°55'	VII-23	1642	1656	334	0-72	437	437
47.60	39°54'	125°18'	VII-23	1136	1150	310	0-74	451	451
50.55	39°30'	124°30'	VII-17	1358	1410	393	0-69	2783	2783
50.60	39°20'	124°52'	VII-17	1953	2006	333	0-69	712	712
50.70	39°00'	125°36.5'	VII-18	0237	0250	340	0-69	1323	1323
50.80	38°40'	126°21'	VII-18	0952	1006	390	0-66	948	948
50.90	38°20'	127°05'	VII-18	1616	1630	398	0-68	75	75
50.100	38°00'	127°49'	VII-18	2252	2316	658	0-70	185	185
50.110	37°40'	128°33'	VII-19	0552	0616	743	0-67	48	48
50.120	37°20'	129°16.5'	VII-19	1222	1245	669	0-70	69	69
50.130	37°00'	130°00'	VII-19	1813	1836	727	0-69	113	113
53.54	38°58'	124°00'	VII-17	0727	0741	322	0-73	1088	1088
53.64	38°38'	124°44'	VII-16	2052	2106	392	0-71	1042	1042
57.54	38°24'	123°35'	VII-16	0442	0506	582	0-72	430	430
57.64	38°04'	124°19'	VII-16	1111	1136	361	0-67	2342	2342
60.60	37°37'	123°37'	VII-15	1357	1421	487	0-74	458	458
60.70	37°17'	124°21'	VII-15	0615	0640	462	0-77	334	334
60.80	36°57'	125°04'	VII-14	1907	1931	540	0-67	737	737
60.90	36°37'	125°47'	VII-14	0726	0751	609	0-68	1196	1196
60.100	36°17'	126°30'	VII-13	2142	2206	659	0-68	115	115
60.110	35°57'	127°12'	VII-13	1437	1501	643	0-69	118	118
60.120	35°37'	127°54.5'	VII-13	0524	0546	701	0-68	16	16
60.130	35°17'	128°37'	VII-12	2114	2138	710	0-67	38	38
61.55	37°37'	123°07.5'	VII-15	2027	2051	699	0-72	380	380
63.57	37°09'	127°58'	VII-6	2056	2121	832	0-68	450	450
63.67	36°49'	123°41'	VII-7	0425	0452	791	0-69	753	753
67.55	36°39'	122°26'	VII-9	1253	1316	520	0-69	246	246
67.65	36°19'	123°09'	VII-9	0547	0611	537	0-72	920	920
70.55	36°03'	122°02'	VII-9	1957	2021	573	0-72	255	255
70.60	35°53'	122°23'	VII-10	0039	0103	522	0-70	689	689
70.70	35°33'	123°06'	VII-10	0807	0831	591	0-70	822	822
70.80	35°13'	123°48'	VII-10	1527	1551	546	0-72	216	216
70.90	34°53'	124°30'	VII-10	2325	2351	526	0-69	1262	1262
70.100	34°33'	125°12'	VII-11	0640	0704	577	0-74	509	509
70.110	34°13'	125°54'	VII-11	1332	1356	598	0-72	18	18
70.120	33°53'	126°35.5'	VII-11	1950	2014	563	0-72	76	76
70.130	33°33'	127°16.5'	VII-12	0212	0236	667	0-73	105	105

Plankton Volumes, Cruise 16, July 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
73.51	35°35.5'	121°20'	VII-8	1024	1036	364	0-71	324	324
73.61	35°15.5'	122°02.5'	VII-8	1448	1501	349	0-66	734	734
77.55	34°54'	121°13'	VII-9	0058	0111	233	0-66	3778	3778
77.65	34°34'	121°54.8'	VII-8	1949	2001	348	0-71	1060	666
80.55	34°18.5'	120°52'	VII-9	0548	0601	403	0-70	124	124
80.60	34°08.6'	121°10'	VII-9	0848	0900	361	0-67	385	385
80.70	33°47'	121°52.5'	VII-9	1439	1451	317	0-71	545	545
80.80	33°29.5'	122°32.5'	VII-9	1923	1936	365	0-72	230	230
80.90	33°10'	123°13.5'	VII-10	0044	0055	356	0-69	124	124
80.100	32°49.5'	123°54.5'	VII-10	0543	0556	374	0-72	117	117
80.110	32°29.5'	124°35.5'	VII-10	1054	1105	360	0-69	284	284
80.120	32°11.5'	125°16'	VII-10	1559	1611	376	0-70	24	24
80.130	31°49'	125°56'	VII-10	2113	2126	379	0-72	42	42
83.55	33°45'	120°26'	VII-16	0343	0356	426	0-66	437	437
83.60	33°38'	120°40.2'	VII-16	0033	0046	359	0-66	340	340
83.70	33°17.6'	121°21'	VII-15	1939	1951	388	0-65	561	561
83.80	32°56'	122°05.8'	VII-15	1433	1446	393	0-68	107	107
83.90	32°35.5'	122°47'	VII-15	0914	0926	370	0-71	73	73
86.50	33°26.5'	119°44.5'	VII-14	0719	0726	179	0-69	84	84
87.35	33°50'	118°37.5'	VII-13	2239	2251	336	0-67	202	202
87.40	33°41'	118°59'	VII-14	0142	0156	365	0-73	143	143
87.60	33°01'	120°21.7'	VII-14	1148	1200	301	0-71	319	319
87.70	32°41'	121°02'	VII-14	1643	1656	401	0-67	472	472
87.80	32°20'	121°43'	VII-14	2153	2206	381	0-73	420	420
87.90	32°01'	122°23'	VII-15	0303	0316	368	0-72	46	46
90.30	33°24'	117°55'	VII-13	1659	1711	388	0-61	41	41
90.37	33°11'	118°23.6'	VII-13	1238	1251	330	0-67	303	303
90.45	32°54'	118°56'	VII-13	0813	0826	330	0-69	85	85
90.53	32°38.5'	119°29'	VII-13	0303	0316	345	0-70	470	470
90.60	32°24.5'	119°56.5'	VII-12	2148	2201	277	0-83	224	224
90.70	32°06.5'	120°39'	VII-12	1605	1618	306	0-74	33	33
90.80	31°45.5'	121°22'	VII-12	1028	1051	532	0-74	17	17
90.90	31°28'	120°00.5'	VII-12	0433	0456	558	0-72	22	22
90.100	31°05.8'	122°41'	VII-11	2303	2326	684	0-69	28	28
90.110	30°45.5'	123°26'	VII-11	1713	1726	356	0-72	17	17
90.120	30°24.5'	124°04.5'	VII-11	1104	1116	362	0-72	19	19
93.30	32°51.5'	117°32'	VII-17	0853	0906	406	0-68	34	34
93.40	32°30'	118°12.5'	VII-17	1428	1451	698	0-69	54	54
93.50	32°10.5'	118°54'	VII-17	2038	2101	681	0-67	184	184
93.60	31°51.5'	119°32'	VII-18	0919	0941	686	0-68	93	93
93.70	31°30.5'	120°13.5'	VII-18	1454	1516	680	0-68	59	59
93.80	31°11'	120°54'	VII-18	2113	2136	677	0-71	59	59
93.90	30°50.5'	121°35'	VII-19	0224	0246	680	0-70	87	87
97.32	32°13'	117°17.5'	VII-21	0029	0052	694	0-70	186	186
97.40	31°55.5'	117°50'	VII-20	1928	1951	686	0-73	198	198
97.50	31°31.5'	118°26'	VII-20	1119	1131	381	0-71	31	31
97.60	31°15.5'	119°11'	VII-20	0329	0341	402	0-71	373	373
97.70	30°55'	119°49.5'	VII-19	2154	2216	669	0-69	374	374
97.80	30°36'	120°31'	VII-19	1444	1506	718	0-69	60	60

Plankton Volumes, Cruise 16, July 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
97.90	30°15'	121°11'	VII-19	0829	0851	714	0-69	20	20
100.30	31°40.5'	116°46.5'	VII-20	0051	0114	805	0-69	81	81
100.40	31°22'	117°32'	VII-19	1848	1912	762	0-69	29	29
100.50	31°05'	118°14'	VII-19	1105	1128	767	0-67	59	59
100.60	30°43'	118°53'	VII-19	0544	0606	732	0-70	86	86
100.70	30°21'	119°32'	VII-19	0015	0038	709	0-68	302	302
100.80	30°00'	120°09'	VII-18	1842	1905	761	0-67	137	137
100.90	29°35'	120°47'	VII-18	1308	1331	764	0-65	17	17
100.100	29°16'	121°28'	VII-18	0752	0815	754	0-68	29	29
100.110	28°57'	122°09'	VII-18	0218	0241	701	0-67	26	26
100.120	28°39'	122°49'	VII-17	2040	2102	816	0-66	42	42
105.35	30°09'	116°33'	VII-7	0650	0712	826	0-59	157	157
110.35	29°50'	116°02'	VII-15	0652	0715	711	0-69	108	108
110.40	29°40'	116°22'	VII-15	1023	1046	734	0-70	120	120
110.50	29°20'	117°00'	VII-15	1644	1706	730	0-66	64	64
110.60	28°59'	117°41'	VII-15	2236	2259	758	0-70	121	121
110.70	28°39'	118°20'	VII-16	0430	0453	740	0-68	51	51
110.80	28°19'	118°58'	VII-16	1021	1044	768	0-68	103	103
110.90	28°01'	119°34'	VII-16	1623	1646	788	0-68	9	9
110.100	27°37'	120°16'	VII-16	2238	2301	731	0-70	25	25
110.110	27°16.5'	120°54.5'	VII-17	0438	0502	780	0-68	13	13
113.35	29°12'	115°39'	VII-15	2356	0019	810	0-67	79	79
117.35	28°37'	115°16'	VII-14	1724	1746	711	0-71	93	93
120.35	28°03'	114°54'	VII-14	1024	1047	591	0-65	10	10
120.45	27°43'	115°33'	VII-14	0421	0444	719	0-70	56	56
120.50	27°33'	115°52.5'	VII-14	0008	0031	(724)	0-70	182	182
120.60	27°13'	116°31.5'	VII-13	1722	1746	777	0-67	36	36
120.70	26°54'	117°10'	VII-13	1053	1116	745	0-69	12	12
120.80	26°37'	117°50'	VII-13	0338	0401	828	0-68	10	10
120.90	26°19'	118°35'	VII-12	2008	2031	773	0-68	16	16
120.100	26°02'	119°10'	VII-12	1330	1353	755	0-70	12	12
120.110	25°45'	119°43'	VII-12	0800	0823	728	0-72	29	29
123.40	27°16'	114°49'	VII-8	1306	1330	847	0-67	27	27
123.50	26°58'	115°32'	VII-8	1929	1953	785	0-69	206	206
123.60	26°36'	116°06'	VII-9	0304	0327	764	0-69	46	46
127.40	26°43.5'	114°29.5'	VII-10	2400	0024	744	0-69	403	403
127.50	26°23.5'	115°08'	VII-9	1633	1657	722	0-68	60	60
127.60	25°55'	115°42'	VII-9	0819	0844	837	0-67	17	17
130.35	26°17'	113°55'	VII-10	0550	0614	790	0-68	18	18
130.40	26°07'	114°11'	VII-10	0915	0938	740	0-70	65	65
130.50	25°50'	114°46'	VII-10	1459	1522	748	0-70	70	70
130.60	25°29'	115°24'	VII-10	2132	2155	669	0-70	75	75
130.70	25°04'	116°10'	VII-11	0419	0442	795	0-64	18	18
130.80	24°47'	116°48'	VII-11	1002	1026	714	0-71	13	13

Plankton Volumes, Cruise 17, August 1950

Position			Time (PST)			Vol. water strained	Depth of haul	Vol.per 1000 C.M.strained	
			(1950)					Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
20.10	46°10.5'	124°49'	VIII-18	2029	2042	419	0-66	155	155
20.20	45°50.5'	125°38.5'	VIII-18	1354	1406	439	0-63	398	398
20.30	45°30.5'	126°27.5'	VIII-18	0705	0728	793	0-66	526	526
20.40	45°10.5'	127°16.5'	VIII-18	0122	0136	447	0-67	105	105
20.50	44°50.5'	128°06'	VIII-17	1921	1941	652	0-68	77	77
20.60	44°30.5'	128°53.5'	VIII-17	1303	1316	434	0-65	46	46
20.70	44°10.5'	129°42.5'	VIII-17	0623	0635	435	0-63	253	92
20.80	43°50.5'	130°30'	VIII-17	0138	0151	435	0-70	126	126
20.90	43°30.5'	131°18'	VIII-16	1513	1526	434	0-67	104	104
23.15	45°25.5'	124°47'	VIII-19	0350	0404	421	0-70	135	135
27.20	44°40'	124°45'	VIII-19	1113	1126	467	0-68	439	439
30.26	43°54.5'	124°49.5'	VIII-13	1416	1429	436	0-60	590	590
30.30	43°46.5'	125°08.5'	VIII-13	1654	1706	378	0-56	1017	1017
30.40	43°26.5'	125°56'	VIII-13	2343	2356	400	0-68	132	132
30.50	43°06.5'	126°43.5'	VIII-14	0725	0738	332	0-71	3500	3500
30.60	42°46.5'	127°30.5'	VIII-14	1816	1831	(542)	0-63	63	63
30.70	42°26.5'	128°17'	VIII-15	0002	0016	479	0-68	163	163
30.80	42°06.5'	129°04'	VIII-15	0754	0807	500	0-65	366	366
30.90	41°47'	129°50'	VIII-15	1443	1506	807	0-66	31	31
30.100	41°27'	130°36'	VIII-15	2128	2141	467	0-67	47	47
33.32	43°07.5'	124°53'	VIII-13	0730	0744	338	0-69	3876	3876
37.38	42°20'	124°56.5'	VIII-12	2327	2341	338	0-67	740	740
40.45	41°33'	125°00'	VIII-12	1546	1604	540	0-94	482	482
40.50	41°23'	125°23'	VIII-12	1119	1132	317	0-73	1245	1040
40.60	41°03'	126°09'	VIII-12	0118	0132	413	0-71	1314	1314
40.70	40°42'	126°55'	VIII-11	1834	1845	396	0-71	270	270
40.80	40°23'	127°40'	VIII-11	1207	1220	399	0-73	363	363
40.90	40°02'	128°25'	VIII-11	0518	0530	411	0-66	353	353
40.100	39°42'	129°10'	VIII-10	2132	2156	775	0-70	387	387
40.110	39°23'	129°55'	VIII-10	1544	1556	413	0-68	138	138
40.120	39°03'	130°39'	VIII-10	0724	0736	444	0-67	38	38
43.50	40°48'	124°57'	VIII-6	1943	1956	247	0-68	2329	2329
43.60	40°28'	125°43'	VIII-7	0331	0343	428	0-69	402	402
47.55	40°04'	124°55'	VIII-6	1138	1150	369	0-64	1111	1111
47.60	39°54'	125°18'	VIII-7	1013	1025	362	0-70	1423	1423
50.55	39°30'	124°30'	VIII-6	0127	0140	407	0-73	546	546
50.60	39°20'	124°52'	VIII-7	1648	1700	419	0-69	1418	1418
50.70	39°00'	125°36.5'	VIII-8	0013	0026	436	0-67	1125	1125
50.80	38°40'	126°21'	VIII-8	0624	0636	461	0-63	986	986
50.90	38°20'	127°05'	VIII-8	1248	1300	378	0-67	378	378
50.100	38°00'	127°49'	VIII-8	1832	1844	408	0-66	86	86
50.110	37°40'	128°33'	VIII-9	0113	0126	434	0-69	127	127
50.120	37°20'	129°16.5'	VIII-9	0704	0716	462	0-64	26	26
50.130	37°00'	130°00'	VIII-9	1408	1421	406	0-70	62	62
53.54	38°58'	124°00'	VIII-5	1559	1611	467	0-67	130	130
57.54	38°24'	123°35'	VIII-5	0812	0826	496	0-64	115	115

Plankton Volumes, Cruise 17, August 1950 (cont'd)

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
60.60	37°37'	123°37'	VIII-9	1918	1941	530	0-80	406	406
60.70	37°17'	124°21'	VIII-10	0109	0121	349	0-68	787	787
60.80	36°57.5'	125°04'	VIII-10	0638	0651	383	0-70	1063	1063
60.90	36°39'	125°47'	VIII-10	1158	1211	352	0-70	2757	2757
60.100	36°19'	126°31'	VIII-10	1759	1811	370	0-65	851	851
60.110	35°58'	127°12.5'	VIII-10	2323	2336	363	0-70	372	372
60.120	35°39'	127°55'	VIII-11	0548	0601	375	0-70	35	35
60.130	35°15.7'	128°36.7'	VIII-11	1149	1201	363	0-69	99	99
61.55	37°35.7'	123°09'	VIII-9	1509	1531	620	0-70	234	129
63.57	37°09'	122°58.4'	VIII-9	1028	1051	642	0-70	443	443
67.55	36°38.7'	122°26'	VIII-9	0428	0455	690	0-74	229	229
70.55	35°47.5'	122°10.5'	VIII-13	2113	2126	359	0-70	432	432
70.60	35°40'	122°30'	VIII-13	1743	1756	373	0-70	295	295
70.70	35°23'	123°10'	VIII-13	1203	1216	311	0-78	393	393
70.80	35°06.5'	123°51.5'	VIII-13	0627	0641	375	0-76	155	155
70.90	34°39'	124°31.5'	VIII-13	0033	0046	358	0-75	404	404
70.100	34°33'	125°12'	VIII-12	1903	1916	357	0-73	174	174
70.110	34°19.5'	125°54'	VIII-12	1338	1351	359	0-71	599	599
70.120	33°57'	126°34'	VIII-12	0803	0816	365	0-71	192	192
70.130	33°35'	127°14.5'	VIII-11	2354	0006	369	0-70	87	87
73.51	35°29.5'	121°14'	VIII-14	0348	0401	387	0-61	672	672
77.55	34°52.5'	121°08.5'	VIII-14	0838	0850	339	0-70	248	248
80.55	34°19'	120°48'	VIII-14	1343	1356	367	0-70	327	327
80.60	34°09'	121°09'	VIII-14	1729	1741	340	0-68	182	182
80.70	33°49'	121°47.5'	VIII-15	2358	0011	324	0-71	376	376
80.80	33°28.5'	122°26.5'	VIII-15	0533	0546	339	0-72	242	242
80.90	33°09'	123°05'	VIII-15	1128	1141	355	0-70	206	206
80.100	32°48.5'	123°44'	VIII-15	1644	1656	347	0-68	378	378
80.110	32°28'	124°23'	VIII-15	2158	2211	368	0-71	87	87
80.120	32°07'	125°03'	VIII-16	0329	0341	352	0-70	48	48
80.130	31°45.5'	125°41.5'	VIII-16	0843	0856	355	0-69	31	31
83.60	33°34'	120°49'	VIII-12	0908	0930	630	0-64	213	213
83.70	33°14.5'	121°26'	VIII-12	1521	1546	710	0-72	85	85
87.60	33°00'	120°21.5'	VIII-13	0507	0530	733	0-67	221	221
87.70	32°39.5'	121°02'	VIII-12	2218	2242	775	0-69	90	90
86.50	33°28'	119°46'	VIII-13	1043	1107	603	0-70	249	249
90.30	33°24'	117°54.7'	VIII-19	0053	0106	380	0-68	148	148
90.37	33°11'	118°23.5'	VIII-18	2004	2016	362	0-70	207	207
90.45	32°54.5'	118°56.3'	VIII-18	1528	1540	358	0-73	196	196
90.53	32°39.3'	119°29.5'	VIII-18	1038	1051	353	0-71	74	74
90.60	32°24.8'	119°59.3'	VIII-18	0524	0536	368	0-68	267	267
90.70	32°05'	120°40'	VIII-18	0003	0016	380	0-71	487	487
90.80	31°45'	121°19'	VIII-17	1848	1911	621	0-71	248	248
90.90	31°35.5'	121°56.5'	VIII-17	1334	1356	676	0-70	47	47
90.100	31°14.1'	122°38'	VIII-17	0758	0811	388	0-70	15	15
90.110	30°52.8'	123°18'	VIII-17	0258	0311	385	0-65	29	29
90.120	30°31'	123°58.6'	VIII-16	1958	2010	363	0-68	39	39

Plankton Volumes, Cruise 18, September 1950

Position			Time (PST)			Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
30.26	43°54.5'	124°49.5'	IX-19	1302	1326	676	0-71	117	36
30.30	43°46.5'	125°08.5'	IX-19	0943	0957	466	0-66	49	49
30.40	43°26.5'	125°56'	IX-19	0307	0320	432	0-68	109	109
30.50	43°06.5'	126°43.5'	IX-18	1903	1917	400	0-71	375	375
30.60	42°46.5'	127°30.5'	IX-18	1242	1306	642	0-71	466	466
30.70	42°26.5'	128°17'	IX-18	0527	0551	456	0-72	86	86
30.80	42°06.5'	129°04'	IX-17	2114	2138	799	0-61	219	219
30.90	41°47'	129°50'	IX-17	1348	1413	734	0-72	29	29
30.100	41°27'	130°36'	IX-17	0446	0511	732	0-68	31	31
33.32	43°07.5'	124°53'	IX-19	1924	1938	470	0-70	223	223
37.38	42°20'	124°56.5'	IX-20	0447	0500	452	0-68	442	442
40.45	41°33'	125°00'	IX-13	1929	1945	386	0-68	2785	453
40.50	41°23'	125°23'	IX-13	2316	2331	399	0-67	641	641
40.60	41°03'	126°09'	IX-14	0611	0625	371	0-63	326	326
40.70	40°42'	126°55'	IX-14	1352	1406	335	0-71	191	117
40.80	Occupied. Sample lost								
40.90	40°02'	128°25'	IX-15	0312	0336	722	0-70	212	183
40.100	39°42'	129°10'	IX-15	1206	1219	363	0-73	984	984
40.110	39°23'	129°55'	IX-15	1737	1801	666	0-72	938	938
40.120	39°03'	130°39'	IX-16	0206	0231	729	0-71	99	89
43.50	40°48'	124°57'	IX-13	1211	1226	394	0-70	1382	1357
43.60	40°28'	125°43'	IX-13	0519	0534	396	0-68	315	315
47.55	40°04'	124°55'	IX-12	1802	1815	350	0-67	836	836
47.60	39°54'	125°18'	IX-12	2222	2236	368	0-68	1126	1126
50.55	39°30'	124°30'	IX-12	1123	1136	226	0-67	464	464
50.60	39°20'	124°52'	IX-12	0712	0726	347	0-68	763	763
50.70	39°00'	125°36.5'	IX-12	0027	0040	338	0-70	742	742
50.80	38°40'	126°21'	IX-11	1643	1706	652	0-69	852	829
50.90	38°20'	127°05'	IX-11	0927	0951	646	0-71	291	291
50.100	38°00'	127°49'	IX-11	0157	0221	613	0-71	550	550
50.110	37°40'	128°33'	IX-10	1813	1836	659	0-69	129	120
50.120	37°20'	129°16.5'	IX-10	1053	1116	569	0-69	30	30
50.130	37°00'	130°00'	IX-10	0242	0306	460	0-73	169	169
53.54	38°58'	124°00'	IX-6	1227	1242	414	0-65	617	617
53.64	38°38'	124°44'	IX-6	1846	1901	415	0-70	422	422
57.54	38°24'	123°35'	IX-6	0617	0631	419	0-73	537	537
57.64	38°04'	124°19'	IX-7	0118	0131	417	0-67	715	715
60.60	37°37'	123°37'	IX-7	0832	0846	405	0-69	1268	1132
60.70	37°17'	124°21'	IX-7	1458	1510	356	0-72	155	155
60.80	36°57'	125°04'	IX-7	2107	2121	400	0-68	357	357
60.90	36°37'	125°47'	IX-8	0427	0441	365	0-67	1287	1287
60.100	36°17'	126°30'	IX-8	1132	1146	377	0-69	583	530
60.110	35°57'	127°12'	IX-8	1812	1825	368	0-70	27	27
60.120	35°37'	127°54.5'	IX-9	0027	0051	603	0-74	81	81
60.130	35°17'	128°37'	IX-9	0720	0744	465	0-68	47	47
61.55	37°37'	123°07.5'	IX-5	1739	1755	515	0-70	505	505

Plankton Volumes, Cruise 18, September 1950 (cont'd)

Position			(1950)	Time (PST)		Vol. water strained	Depth of haul	Vol.per 1000 C.M. strained	
								Total	Sm.org.
Sta.	N.lat.	W.long.	Date	Start	End	C.M.	in meters	cc.	cc.
70.55	36°03.4'	122°01.7'	IX-6	2213	2227	336	0-68	3282	3282
70.60	35°53'	122°23'	IX-7	0148	0203	442	0-69	1447	1447
70.70	35°35'	123°05.5'	IX-7	0808	0822	409	0-70	289	289
70.80	35°16.5'	123°48'	IX-7	1523	1536	358	0-70	204	204
70.90	34°57.3'	124°31'	IX-7	2048	2101	381	0-70	152	129
70.100	34°38.8'	125°13.5'	IX-8	0213	0226	366	0-73	216	216
70.110	34°20'	125°55.5'	IX-8	0903	0916	354	0-72	181	181
70.120	34°01'	126°37.8'	IX-8	1324	1336	380	0-70	250	250
70.130	33°33'	127°16.5'	IX-8	1808	1831	670	0-72	25	25
70.145	33°05.5'	128°20'	IX-9	0118	0141	663	0-71	57	57
70.160	32°40'	129°23.8'	IX-9	0843	0906	688	0-71	20	20
70.175	32°03'	130°21'	IX-9	1628	1651	673	0-70	37	37
70.190	31°35'	131°29'	IX-10	0238	0301	666	0-72	48	48
70.205	30°56.5'	132°27'	IX-10	0958	1021	665	0-71	21	21
70.220	30°33'	133°23'	IX-10	1623	1646	681	0-70	43	43
70.235	30°02'	134°23'	IX-10	2309	2331	661	0-73	45	45
70.250	29°37.2'	135°22'	IX-11	0628	0652	687	0-71	36	36
70.265	29°10'	136°18.5'	IX-11	1339	1401	659	0-71	39	39
70.280	28°33'	137°20.5'	IX-11	2109	2131	681	0-71	117	48
90.30	33°24'	117°54.8'	IX-18	1943	2006	651	0-71	81	81
90.37	33°10.9'	118°23.2'	IX-18	1319	1340	652	0-71	43	43
90.45	32°56.8'	118°55.5'	IX-18	1013	1035	520	0-71	83	83
90.53	32°39.6'	119°29'	IX-18	0559	0622	620	0-69	129	129
90.60	32°30.6'	119°54.3'	IX-18	0209	0232	686	0-69	80	80
90.70	32°11'	120°36.2'	IX-17	2044	2106	705	0-69	119	119
90.80	31°48.7'	121°18'	IX-17	1459	1522	724	0-68	62	62
90.90	31°25'	122°01'	IX-17	0919	0941	692	0-68	45	45
90.100	31°04.5'	122°40'	IX-17	0219	0341	722	0-69	60	60
90.110	30°44.5'	123°20'	IX-16	2149	2211	730	0-69	55	55
90.120	30°23.7'	124°01'	IX-16	1558	1621	703	0-69	36	36
90.130	30°01.8'	124°32.5'	IX-16	1053	1116	669	0-73	63	63
90.145	29°31.5'	125°40'	IX-16	0324	0346	712	0-69	49	49
90.160	29°07.2'	126°30.2'	IX-15	2044	2106	680	0-71	49	49
90.175	28°34.3'	127°37.8'	IX-15	1019	1040	666	0-69	33	33
90.190	28°07.3'	128°44.3'	IX-15	0204	0226	754	0-68	85	85
90.205	27°33.7'	127°35.3'	IX-14	1858	1921	723	0-69	41	41
90.220	27°04'	130°35'	IX-14	1139	1202	722	0-71	18	18
90.235	26°35'	131°27.3'	IX-14	0508	0531	709	0-70	30	30
90.250	26°05.2'	132°29.3'	IX-13	2128	2151	682	0-71	47	47
90.265	26°36.5'	133°27.3'	IX-13	1404	1426	658	0-72	23	23
90.280	25°06'	134°32.3'	IX-13	0423	0446	691	0-71	16	16

Plankton Volumes, Cruise 18, September 1950 (cont'd)

Position				Time (PST)		Vol. water strained	Depth of haul	Vol. per 1000 C.M. strained	
			(1950)					Total	Sm. org.
Sta.	N. lat.	W. long.	Date	Start	End	C.M.	in meters	cc.	cc.
100.30	31°40.5'	116°46.5'	IX-21	2051	2113	820	0-67	128	128
100.40	31°24'	117°20'	IX-21	1513	1536	806	0-66	119	119
100.50	31°07'	117°53'	IX-21	1003	1026	(749)	0-67	61	61
100.60	30°49'	118°31'	IX-21	0340	0404	652	0-70	92	92
100.70	30°20.5'	119°27'	IX-20	1944	2007	740	0-67	89	68
100.80	30°00'	120°09'	IX-20	1308	1331	643	0-69	70	70
100.90	29°37'	120°52'	IX-20	0530	0554	730	0-67	42	42
100.100	29°15'	121°37'	IX-19	2126	2149	713	0-71	32	32
100.110	29°00.5'	122°07'	IX-19	1508	1532	776	0-68	31	31
105.35	30°39'	116°33'	IX-7	0201	0223	824	0-60	95	95
110.35	29°46.5'	116°00'	IX-16	2322	2346	809	0-64	136	99
110.40	29°36.5'	116°19.5'	IX-17	0308	0331	760	0-64	138	138
110.50	29°19'	117°02'	IX-17	0858	0922	803	0-65	187	187
110.60	28°59'	117°41'	IX-17	1505	1530	806	0-66	79	79
110.70	28°36'	118°18'	IX-17	2107	2131	773	0-68	45	45
110.80	28°20'	118°58'	IX-18	0353	0417	666	0-66	117	117
110.90	28°04'	119°42'	IX-18	0958	1022	773	0-67	155	155
110.100	27°40'	120°18'	IX-18	1625	1649	755	0-66	23	23
110.110	27°16.5'	120°54.5'	IX-18	2233	2256	657	0-68	41	41
113.35	24°12'	115°39'	IX-16	1633	1656	833	0-64	41	41
117.35	28°37'	115°16'	IX-16	0942	1006	786	0-64	261	261
120.27	29°19'	114°23'	IX-15	2342	0006	753	0-66	158	158
120.35	28°03'	114°54'	IX-15	1944	2009	681	0-64	308	308
120.45	27°43'	115°32'	IX-15	1256	1319	757	0-67	112	112
120.50	27°21'	116°10'	IX-15	0608	0631	755	0-67	28	28
120.60	27°05'	116°43'	IX-14	2347	0011	764	0-65	85	85
120.70	26°50'	117°15'	IX-14	1733	1756	808	0-62	12	12
120.80	26°34'	117°50'	IX-14	1117	1141	842	0-67	13	13
120.90	26°12'	118°30'	IX-14	0440	0504	774	0-66	17	17
120.100	25°51'	119°10'	IX-13	2203	2226	780	0-68	55	55
120.110	25°32'	119°45'	IX-13	1558	1622	802	0-63	421	421
123.40	27°15'	114°54'	IX-8	0622	0646	753	0-65	505	505
123.50	26°57'	115°30'	IX-8	1217	1241	710	0-65	972	972
123.60	26°38.5'	116°09'	IX-8	1857	1911	403	0-72	87	87
127.40	26°43.5'	114°29.5'	IX-9	1403	1416	396	0-69	96	96
127.50			Not occupied						
127.60	26°03.5'	115°46.5'	IX-9	0038	0051	406	0-62	74	74
130.35	26°19'	113°48.5'	IX-11	1257	1323	610	0-76	118	118
130.40	26°07'	114°11'	IX-11	1645	1709	826	0-63	25	25
130.50	25°47'	114°55'	IX-11	2246	2311	763	0-65	97	69
130.60	25°27'	115°34'	IX-12	0518	0541	704	0-63	60	43
130.70	25°08'	116°06'	IX-12	1057	1121	827	0-63	647	647
130.80	24°48.5'	116°40'	IX-12	1636	1649	452	0-58	310	310

Deep Tows (600 meters of wire out)

Sta.	Position N.lat.	W.long.	Date	Time (PST) Start	End	Vol. water strained C.M.	Depth of haul in meters	Vol. per 1000 C.M. strained Total cc.	Sm.org. cc.
Cruise 9 (1949):									
1202	27°06'	115°53'	XI-8	1332	1425	1892	0-395	48	30
1209	24°11'	119°56'	XI-10	0528	0624	2051	0-349	9	9
Cruise 11 (1950):									
55.60	38°28.5'	124°14'	II-16	0306	0411	1964	0-424	89	89
60.130	35°17'	128°37'	II-13	1605	1709	2217	0-423	23	23
Cruise 12 (1950):									
47.60	39°54'	125°18'	III-14	1015	1114	2072	0-423	168	168
50.55	39°30'	124°30'	III-8	1519	1616	1872	0-416	129	115
60.60	37°37'	123°37'	III-7	1251	1350	1950	0-398	86	86
60.120	35°37'	127°54.5'	III-5	1339	1438	1928	0-421	98	98
90.110	30°46'	123°21'	III-5	1450	1555	2000	0-403	15	15
90.120	30°25'	124°01'	III-5	0705	0807	2075	0-382	16	16
100.120	28°40'	122°45'	III-12	1805	1909	1806	0-423	14	14
120.45	27°40'	115°32'	III-8	0517	0623	2242	0-386	23	23
120.110	25°30.7'	119°44'	III-6	1105	1210	2024	0-414	9	9
130.80	24°49'	116°40'	III-5	1922	2002	1665	0-334	10	10
Cruise 13 (1950):									
40.80	40°23'	127°40'	IV-14	2132	2226	1659	0-410	127	127
47.55	40°04'	124°55'	IV-16	2052	2145	1668	0-421	142	142
50.70	39°00'	125°36.5'	IV-11	0027	0131	2155	0-418	2841	2841
60.70	37°17'	124°21'	IV-9	0346	0451	1945	0-423	636	636
80.130	31°49.5'	125°58'	IV-6	1020	1116	1949	0-401	12	12
90.120*	30°22'	124°02'	IV-6	2335	0115	3477	0-621	18	16
120.110	25°31'	119°46'	IV-8	1031	1131	1796	0-421	32	32
130.80	24°49'	116°40'	IV-7	1656	1804	1923	0-383	23	18
Cruise 14 (1950):									
40.45	41°33'	125°00'	V-16	1732	1826	1585	0-418	162	162
40.110	39°23'	129°55'	V-14	0616	0726	2197	0-415	81	70
55.60	38°28.5'	124°14'	V-10	0251	0346	1586	0-404	1641	1641
80.130	31°50'	125°57'	V-5	0902	0951	1714	0-374	8	8
90.120	30°24.5'	124°01'	V-5	2157	2247	1625	0-379	16	2
120.110	25°38'	119°39'	V-7	1815	1913	1816	0-411	12	12
130.80	24°55'	116°41'	V-6	2258	2356	1940	0-424	25	25

* - 1000 meters of wire out.

Deep Tows (600 meters of wire out), cont'd.

Sta.	Position N.lat.	W.long.	Date	Time (PST) Start	End	Vol. water strained C.M.	Depth of haul in meters	Vol.per 1000 C.M.strained Total cc.	Sm.org. cc.
Cruise 15 (1950):									
40.110	39°23'	129°55'	VI-19	1315	1402	1310	0-427	71	71
60.130	35°17'	128°37'	VI-12	1406	1457	1402	0-430	78	78
Cruise 16 (1950):									
90.120	30°24.5'	124°04.5'	VII-11	1122	1205	846	0-425	15	15
93.50	32°10.5'	118°54'	VII-17	2106	2150	1231	0-406	92	92
Cruise 17 (1950):									
20.10	46°10.5'	124°49'	VIII-18	2209	2250	1208	0-411	116	116
20.40	43°30.5'	131°18'	VIII-16	1636	1722	1630	0-412	61	61
30.40	43°26.5'	125°56'	VIII-14	0130	0217	1360	0-427	154	154
30.100	41°27'	130°36'	VIII-15	2246	2332	1530	0-410	59	59
40.120	39°03'	130°39'	VIII-10	0947	1030	1437	0-411	35	35
50.130	37°00'	130°00'	VIII-9	1545	1632	1276	0-430	55	55
70.130*	33°35'	127°14.5'	VIII-12	0014	0117	1836	0-698	31	31
80.60*	34°09'	121°09'	VIII-14	1755	1905	1944	0-671	94	94
90.37*	33°11'	118°23.5'	VIII-18	2025	2132	1755	0-690	92	92
90.120*	30°31'	123°58.6'	VIII-16	2020	2125	1875	0-652	22	22
Cruise 18 (1950):									
30.40	43°26.5'	125°56'	IX-19	0336	0425	1355	0-411	101	81
30.50	43°06.5'	126°43.5'	IX-18	2033	2118	1209	0-396	159	149
33.32	43°07.5'	124°53'	IX-19	2059	2140	1412	0-354	219	142
37.38	42°20'	124°56.5'	IX-20	0513	0559	1600	0-421	112	112
70.175*	32°03'	130°21'	IX-9	1756	1922	2163	0-698	28	14
70.280*	28°33'	137°20.5'	IX-11	2247	2346	1703	0-709	26	26
90.37*	33°10.9'	118°23.2'	IX-18	1444	1606	2089	0-712	64	64
90.175*	28°34.3'	127°37.8'	IX-15	1250	1402	1974	0-669	10	10

* - 1000 meters of wire out.

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